May 30, 1936

Railway Age

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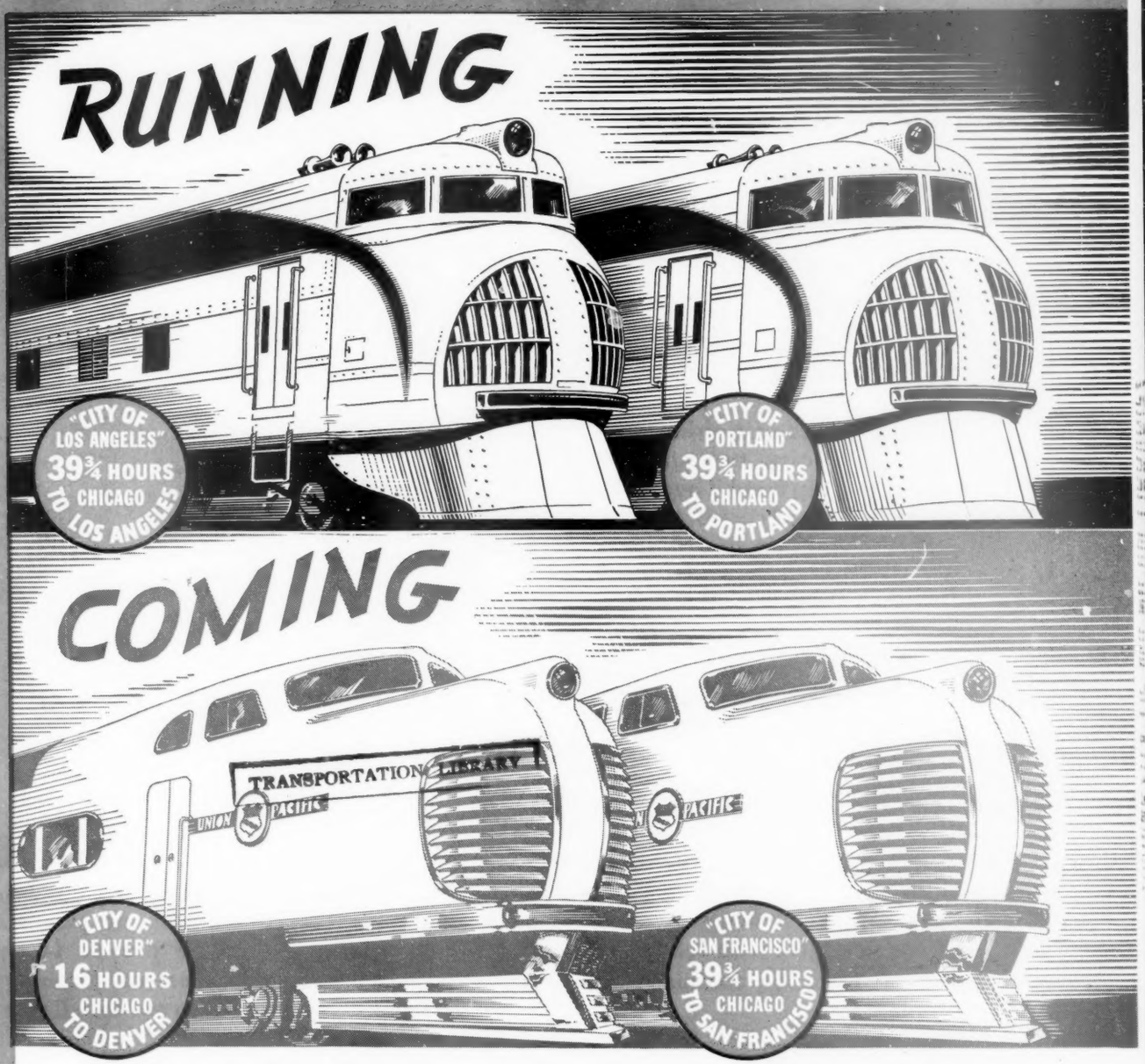
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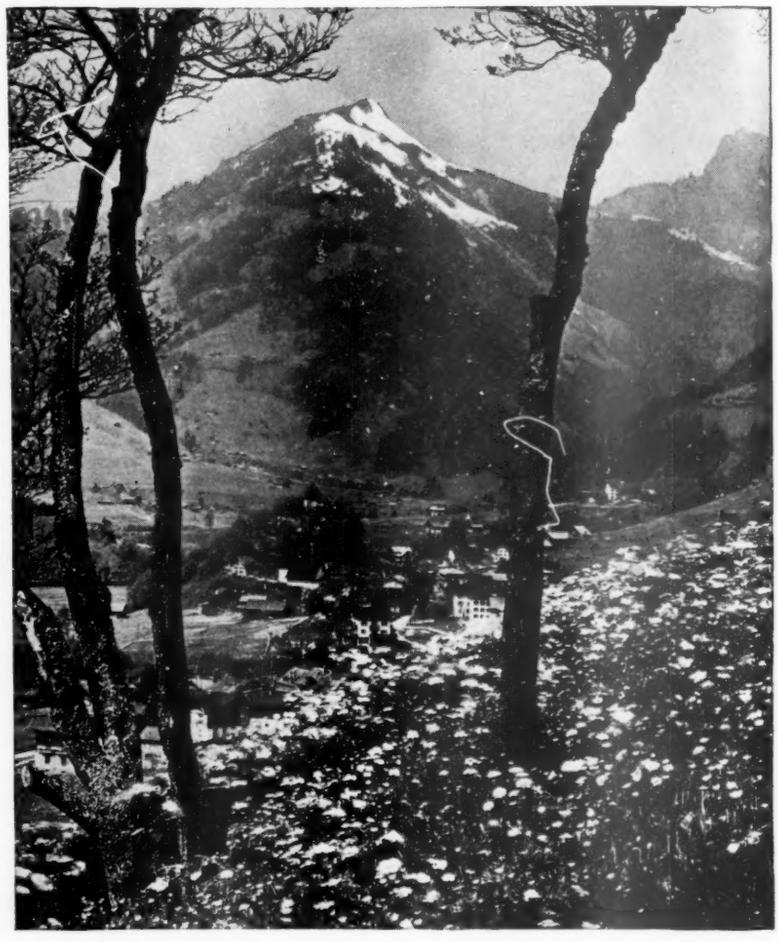

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Railway Age

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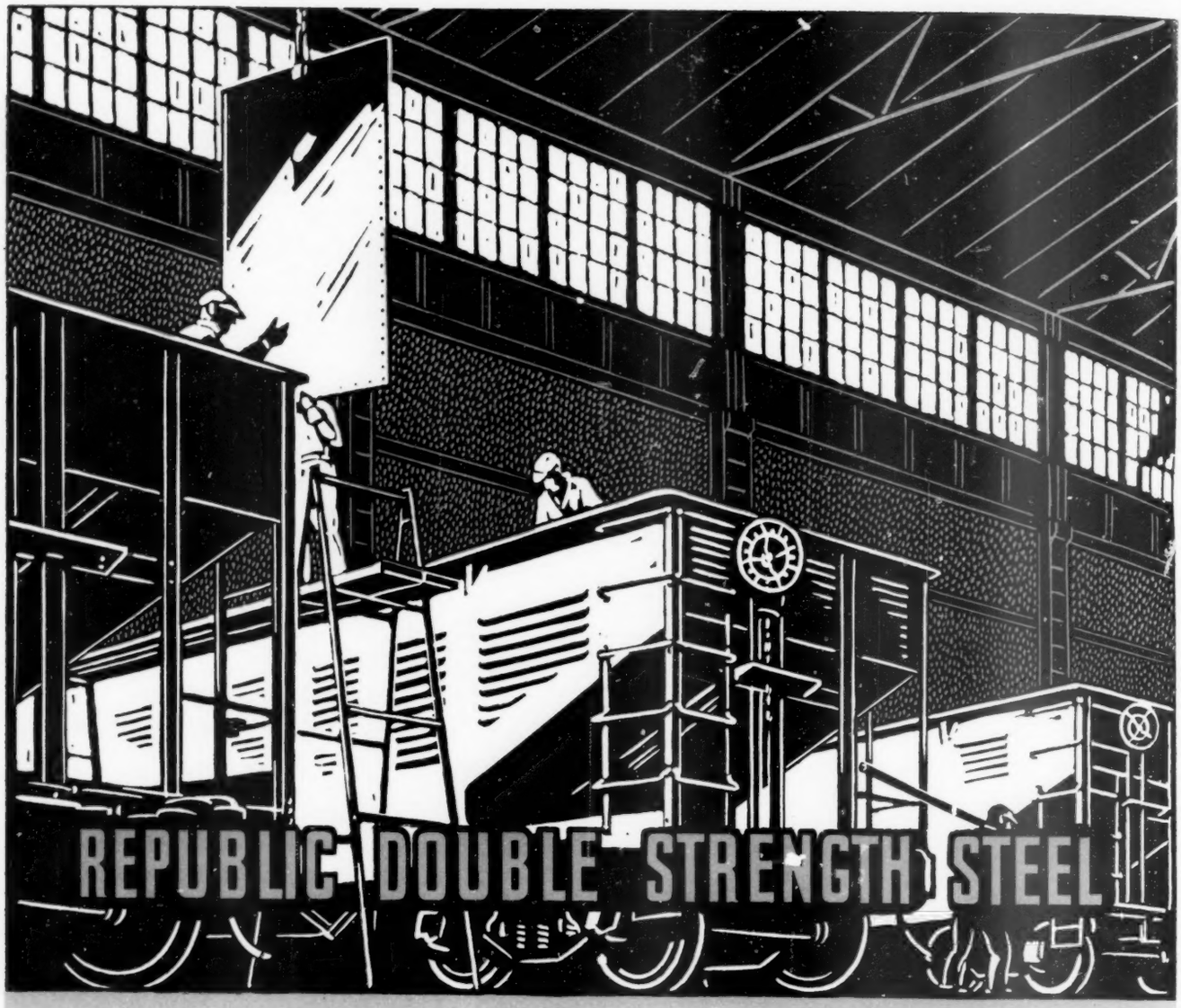

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RAILWAY AGE

The New Deal, Policies of Business, and the Depression

The six and one-half years of profound depression that the United States already have had, and the fact that it would still require a 50 per cent improvement in business as a whole to make it as good as in 1929, constitute a terrible indictment of the intelligence and character of the American people, and especially of their political and business leaders. To talk of "recovery" as if it had been anywhere near accomplished, when the increase in the annual volume of total business since the bottom of the depression was reached has been only one-fifth as great as the decline that occurred, is an absurdity. The terrific decline, the length of the depression, the continuance of business as bad as it still is, have been due to the most muddled and selfish thinking regarding economic matters, and the following by government, organized labor and business of the most stupid, short-sighted and selfish policies in the history of any nation that ever boasted of being educated and civilized. They prove beyond cavil the charge that we are a nation of economic illiterates.

The policies of the New Deal are being savagely attacked by their opponents as tending to perpetuate bad business, unemployment and relief rolls; and the attacks are justifiable. Never did any nation adopt worse economic policies than some of those of the New Deal. But New Deal policies are by no means the only influences that are hindering a revival of business. The three things most needed to restore prosperity are a revival of railroad buying, of building construction and of foreign trade. Most current policies of both government and business are adverse to revival of any of them; and every effort to change any of these policies encounters opposition from powerful pressure groups that, in their economic ignorance and to their own injury, put their supposed selfish interests above the interests of the nation as a whole.

Regulation and Railway Buying

The only thing that will or can cause a large increase in railroad buying from the manufacturing industry is a large increase of railway net operating income. However great the buying needs of the railroads may be or become, they can satisfy them only by the expenditure of money derived from earnings or from the sale of securities made saleable by earnings. In the eight months ending with March, 1936, the net operating income of the railways increased from $285,000,000 to $380,000,000, or 33½ per cent. It would have increased more but for exceptionally severe winter weather, followed by floods. Its actual and prospective increase alone has caused railroad buying of equipment and supplies to be about double in the first five months of 1936 what it was in the first five months of 1935. Continued increase in railroad buying is one of the essentials of national recovery. Yet politicians and pressure groups of business interests continue to exert their utmost efforts to prevent the increase in net operating income essential to a continued increase in railway buying.

Railway regulation was adopted originally upon the assumption of a monopoly in transportation. Evidence that this monopoly was being or had been lost logically suggested a reduction of railway regulation. But as competition by waterways, and especially via the Panama canal increased, railway regulation also was increased. Formerly the long-and-short-haul section of the Interstate Commerce Act merely prohibited the railways from making a lower rate for a longer than for a shorter haul under "substantially similar circumstances and conditions"; and competition which existed for a long haul but not for a short haul was recognized as a "substantially different circumstance and condition." The more, however, competition by the Panama canal increased, the more stringent regulation of railway rates was made, until at last the Interstate Commerce Commission rendered it practically impossible for the railways to get any long distance traffic at all to the Pacific coast. Government regulation originally adopted upon the assumption of a *railway* monopoly was increased and distorted until it created a *steamship* monopoly.

More Competition—More Regulation

Finally a preponderant business and public sentiment, backed by the railroad labor unions, demanded that the railroads should be given opportunity to compete for Pacific coast traffic by the passage of the Pettengill bill to repeal the long-and-short-haul section. The bill has been passed by the House at the present session of Congress by an overwhelming majority, and undoubtedly already would have been passed by the Senate if Senator Wheeler of Montana, chairman of the Senate Committee on Interstate Commerce, had not engaged for weeks in a one-man filibuster against it. The railroads have been told many times by spokesmen of other carriers, and by politicians and business men with axes of their own

to grind, that they should seek, not more regulation of other carriers, but less regulation of themselves. They have sought a reduction of regulation of themselves by supporting the Pettengill bill; but it may be defeated by the opposition of a single Senator. And why does he oppose it? To placate the benighted selfishness of certain business interests in his own state which profess, like all other business interests, to be in favor of fair and constructive government policies in dealing with business.

Competition by highway has increased more than competition by waterway. The railways having finally decided that they must establish storedoor collection and delivery of freight to meet truck competition, the truckers repeatedly have appealed to the Interstate Commerce Commission to prevent the railways from establishing such service; and now, after having backed and filled for four months, the commission has suspended the collection and delivery tariffs of the eastern lines until November 1. Both highway carriers and the commission having repeatedly told the railways that they should not complain so much about highway competition, but meet it, the highway carriers and commission have now joined in preventing the railways from meeting it. Likewise, motor bus companies, after having made passenger rates much lower than those of the railways to take business from them, repeatedly have appealed to the commission to prevent the railways from making reductions in their rates for the purpose of getting this traffic back.

The experience of the railroads illustrates a number of important things. One is, that it is highly dangerous for any industry to become subjected to government regulation, no matter what the reason or pretext for it, because regardless of subsequent changes in conditions, there always will be found reasons or pretexts for increasing it; and these reasons or pretexts will be as readily found by selfish and short-sighted business interests as by government bureaucrats. Another thing the experience of the railways is illustrating is that their competitors are much more afraid of them than they are of their competitors, and will spare no effort, fair or unfair, to prevent adoption of policies tending to establish equality in conditions of competition. The competitors have been saying for years that the railroads are a moribund and unprogressive industry. If they believe this, why are they so afraid to have the conditions of competition in transportation made equal? They don't believe it and never did. They know they have been enabled by governmental favoritism to take so much traffic from the railways, and that, with either equal regulation or freedom, the railways will take most of it back.

Some of the ablest and soundest addresses upon governmental and economic problems made by business leaders during the depression have been made by Alfred P. Sloan, Jr., President of the General Motors Corporation. "America must decide between two opposing principles of industrial operation: competition on the one hand or regulation and ultimately regimentation by government on the other hand," said Mr. Sloan in a recent address at Los Angeles. "I am convinced that competition offers the only solution of the perfectly natural desire and right of more people to have more things, and especially the only opportunity to afford the full employment of our workers in the production of wealth." He added that the policy of "stabilization" "means the discounting of individual aggressiveness and ability; it means penalizing the new and better to protect the vested rights of the past. It is a direct attack against the American system. It would eventually eliminate the American system."

Transportation and the "American System"

The "American system," as the *Railway Age* repeatedly has emphasized, formerly assumed government regulation of natural monopolies and free competition within naturally competitive industries. This paper agrees with Mr. Sloan that there is no choice for any industry excepting between "competition on the one hand and regulation and ultimately regimentation by government on the other." But how does Mr. Sloan apply his statements to transportation? His company is both the largest manufacturer of highway vehicles and a manufacturer of Diesel locomotives for railways. We now have in transportation both competition and regimentation—government-aided competition of other carriers with the railways, and government regimentation of the railways which greatly hampers them in competing with other carriers. What, then, does Mr. Sloan favor—continuance of this hybrid system, or competition between all transportation agencies untrammeled and unaided by government, or equal government regulation and subsidization of all of them? Obviously, the present hybrid system is entirely unfair to the railways, inimical to the restoration of their earning power, and to restoration of their employing and buying power, and therefore inimical to restoration of prosperity.

The transportation situation is but one of numerous illustrations that business in this country, although most of its spokesmen inveigh against the New Deal policy of a government-regimented planned economy, has not yet decided whether it really wants free competition, regulated competition, or regimented monopoly. The only way to establish free and equal competition in the transportation industry would be to abolish all government regulation and subsidies in that industry, and enforce the Sherman anti-trust law. Probably not a single business man in the United States favors any such policy. Why? Because so many business men want for themselves the supposed benefits of the present hybrid system of government regimentation of the railways and unregulated and subsidized competition of waterway and highway carriers with them. Likewise the only way to re-establish free competition in many other industries would be strictly to enforce the anti-trust law and abolish protective tariffs. It would be extremely difficult, however, to get any national organization of business men,

or any single spokesman of Big Business that ostensibly advocates restoration of the "American system," to advocate these policies.

We know what the New Dealers favor, and we know that business is opposed to it. But how and when are we going to find out what business favors? Its thinking regarding other great economic problems is as muddled as its thinking about the transportation problem. No matter what the railways advocate or try to do, they are immediately confronted with the opposition of some business interest; and some business interests constantly urge them to do exactly the things that other business interests as strenuously oppose them doing. And most business interests are utterly inconsistent in the government policies they favor for transportation and for themselves.

Most industries favor a continuance of government regulation of rates upon the assumption that, in spite of the competition between themselves and from other carriers, the railways otherwise would make their rates too high. At the same time many of the same business interests engage in price-fixing, and are strongly opposed to either enforcement of the anti-trust law against them or to government regulation of their price-fixing. And meantime some other business interests support the policy of "regimentation" exemplified by the Guffey coal act, regret that the Supreme Court held it unconstitutional and hope Congress will pass other acts to legalize non-competitive price-fixing in the coal and other industries. What each industry apparently wants is no competition within itself, but unrestricted competition among both those from whom it buys and to whom it sells! As industries buy from and sell to each other, it is impossible to conceive how this most extraordinary ideal of muddled and selfish thinking could be realized.

Muddled Thinking, Speaking and Acting by Business

Business is opposed to the New Deal. Again we ask, however, what economic policies of government and business does it favor in place of the policies of the New Deal? Mr. Sloan is right. "America must decide between two opposing principles of industrial operation: competition on the one hand or regulation and ultimately regimentation by government on the other hand." The New Deal favors the latter policy for all industries. Apparently hardly a single business man in the country knows which of the two general policies he favors, or each of them favors free competition or government regimentation for each kind of business according to which policy in each particular case he believes will be the more profitable for him. Business cannot beat the New Deal by such muddled thinking, speaking and acting. It is giving a pitiful exhibition of trying to both eat its cake and keep it, and, by such muddled thinking, speaking and acting, helping the New Deal to protract the depression, and thereby playing directly into the hands of the New Dealers.

The *Railway Age* has been opposed to the New Deal from its inception; but it has been and still is unable to advocate policies favored by business to replace the policies of the New Deal, because it does not know what most spokesmen of business mean, and does not think they know what they mean, when they advocate a return of the "American system of private initiative and enterprise."

"Truckers Abandon Plan for a Strike"

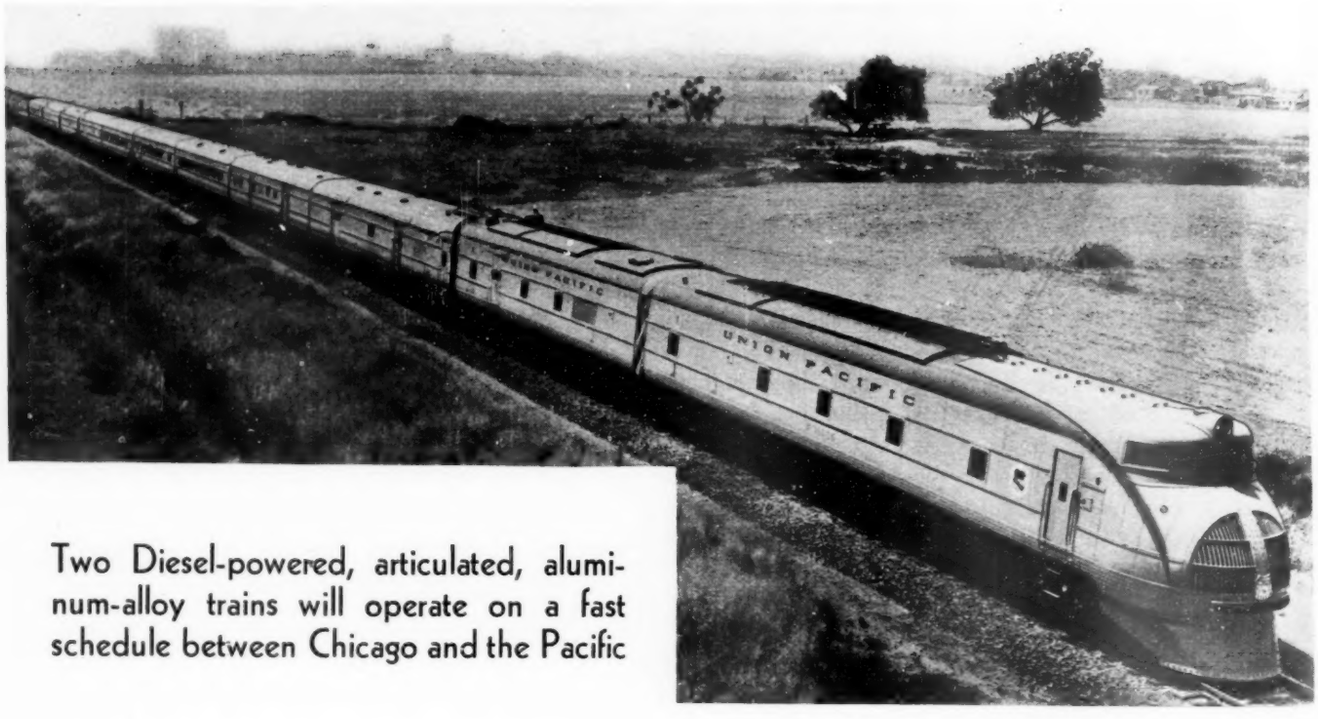
The above is the heading on an account in the New York Times of May 25 of the outcome of a meeting of more than 2000 truckmen and their employees in New York on May 24, following action by the Interstate Commerce Commission on the previous day reversing earlier authorization, and subsequent affirmation, of Eastern collection and delivery tariffs which were to have become effective on May 25. The truckmen and their employees, the Times article says, were prepared to call a strike in opposition to store-door delivery, and there have been numerous other newspaper accounts of their mass meetings, their parades and their bombardment of official Washington with protests.

We have been reluctant to believe that the Commission could be swayed by such methods as the truckmen have used. But what other explanation can possibly now be offered which will account for its unprecedented vacillation? Let us look at the record:

January 17	I. C. C. refuses to suspend collection and delivery tariffs of Western and Southern lines providing for free collection and delivery with 5 cents per 100 lb. allowance for shippers who elect to perform their own cartage.
January 20	Store-door tariffs generally effective in West and South.
March 31	Commission in eleventh hour action on eve of their effective date suspends until November 1 Eastern tariffs similar to those in West and South, which were to have taken effect April 1.
April 14	Pennsylvania and several other Eastern lines ask permission to file modified collection and delivery tariffs, effective May 25, eliminating allowance for shippers who perform their own cartage.
May 4	Commission approves modified tariffs for collection and delivery by Eastern lines, to become effective on 10 days' notice.
May 21	Commission affirms its refusal to suspend the modified Eastern collection and delivery tariffs.
May 23	On eve of effective date of new tariffs, the Commission changes its mind again and suspends them until November 1.

We have often in the past had occasion to differ with the Commission—but heretofore only with its views of the requirements of justice and the public interest. Such issues are deeply involved in this case also. Important as they are, however, they are trivial by comparison with the transcendent question the Commission itself has raised—namely, whether its integrity and insulation from political influence can any longer be depended upon.

Union Pacific 11-Unit Streamliners Ready for Service



Two Diesel-powered, articulated, aluminum-alloy trains will operate on a fast schedule between Chicago and the Pacific

The "City of Los Angeles"

IN addition to the three-unit, streamline, articulated, aluminum-alloy train, "City of Salina," and the similar seven-unit train, "City of Portland" (described, respectively, in the *Railway Age* issues of February 3, 1934, and June 8, 1935), the Union Pacific has just received from the Pullman-Standard Car Manufacturing Company two trains, each consisting of nine articulated body units and a two-unit locomotive, known as the M-10002, or "City of Los Angeles," and the M-10004, or "City of San Francisco." These fully air-conditioned trains are designed to introduce new standards of safety, speed and comfort in transcontinental passenger service and operate on a 39¾-hr. schedule between Chicago and the respective cities mentioned, thus saving a full business day en route.

The M-10002, placed in service May 15, embodies aluminum-alloy construction throughout, except for the cast-steel trucks and certain miscellaneous steel castings. It is driven by a 2,100-hp. Diesel-electric power plant, furnished by the Electro-Motive Corporation, with 1,200 hp. available in the first and 900 hp. in the second unit of the articulated locomotive. The train is streamlined and fully articulated, with the exception that the two-car power unit may be uncoupled from the rest of the train. The M-10004, scheduled to be placed in service on or about the middle of June, also embodies aluminum-alloy construction, except for the two-unit locomotive, the bodies of which are made of Cor-Ten steel and contain Diesel-electric power plants designed to develop a total of 2,400 hp., or 1,200 hp. in each unit. A spare, 2,400-hp. two-unit locomotive, the M-10003, is now nearing completion at the Electro-Motive Corporation's plant, LaGrange, Ill.

Aside from variations in the construction and power-plant equipment of the locomotives, the principal differences between the M-10002 and M-10004 are that the former will be equipped with SKF roller bearings throughout, New York air brake equipment and two Vapor 1,200-lb. capacity, high-pressure, oil-fired, steam-heat boilers, whereas the latter will be equipped with Timken roller bearings, Westinghouse air brakes and two Vapor 1,600-lb. capacity boilers. Special resilient light-weight trucks for both of these trains are of Union Pacific-Pullman Standard design, being built up of heat-treated cast alloy-steel parts. These castings for all power trucks and the two rear trucks, as well as other important castings throughout the train, were furnished by the Lebanon Steel Foundry, Lebanon, Pa. Castings for all intermediate trucks were furnished by the Locomotive Finished Materials Company, Atchison, Kan.

General Description of the Equipment

Each of the new trains is constructed and equipped essentially the same back of the locomotive. The M-10002 is 714 ft. long and weighs 475 tons light on the rails, or 503 tons ready to run including fuel, oil and water. Practically one-third of this amount represents the weight of the locomotive. In the case of the M-10004, the total train length is increased about 11 ft. by the provision of a longer second body unit of the locomotive to accommodate the 1,200-hp. Diesel engine; and this fact, in conjunction with the use of

steel for structural material and heavier engines and auxiliary equipment, has resulted in an increase in total train weight of about 25 tons.

Back of the locomotive, each of the trains consists of nine articulated body units, including a mail-baggage car, baggage-dormitory-kitchen car, diner-lounge car, four Pullman sleeping cars, a de luxe coach, and a combination coach-buffet car. These bodies are all of practically standard width, inside, but at least 2½ ft. lower in roof height above the rails than conventional steel equipment, the resultant lower center of gravity, in conjunction with the articulated construction and special, spring-cushioned truck design contributing much to exceptionally smooth and comfortable riding at all speeds. The arrangements of the various car compartments and their respective seating capacities are clearly shown in the floor plans.

Each train has a total seating capacity for 170 passengers, including 84 in the Pullman sleeping cars and 86 in the coaches. In addition, 32 seats for individual passengers are provided in the dining room, 8 in the card section and 16 in the lounge room of the diner-lounge car. The train is operated primarily to accommodate through passengers. Tickets for travel in the coaches will be sold at regular coach rates, with an extra fare charge of $5 for transportation between the two terminals. Each passenger in the coaches is assured an individual seat, since coach seats are numbered, and reserved in advance. Regular Pullman fares apply for sleeping-car passengers, with the addition of an extra fare of $10 between terminals.

The four sleeping cars include three 11-section Pullmans, two of which have open-type sections with permanent headboards and one has semi-closed sections. The fourth Pullman is a bedroom car with seven bedrooms and two compartments of the latest type. Six of the bedrooms may be used singly or en suite.

In the semi-closed Pullmans, each section has, in addition to the customary curtain, an aluminum sliding panel which is closed during night occupancy. The sliding panel may be open during the day to give semi-privacy or closed to provide complete privacy in the compartments. Protruding curtains greatly facilitate dressing in upper as well as lower berths. Individual steps for the upper berths automatically fold up when not in use and are entirely removed during the day, or when the space is used as a section for single occupancy.

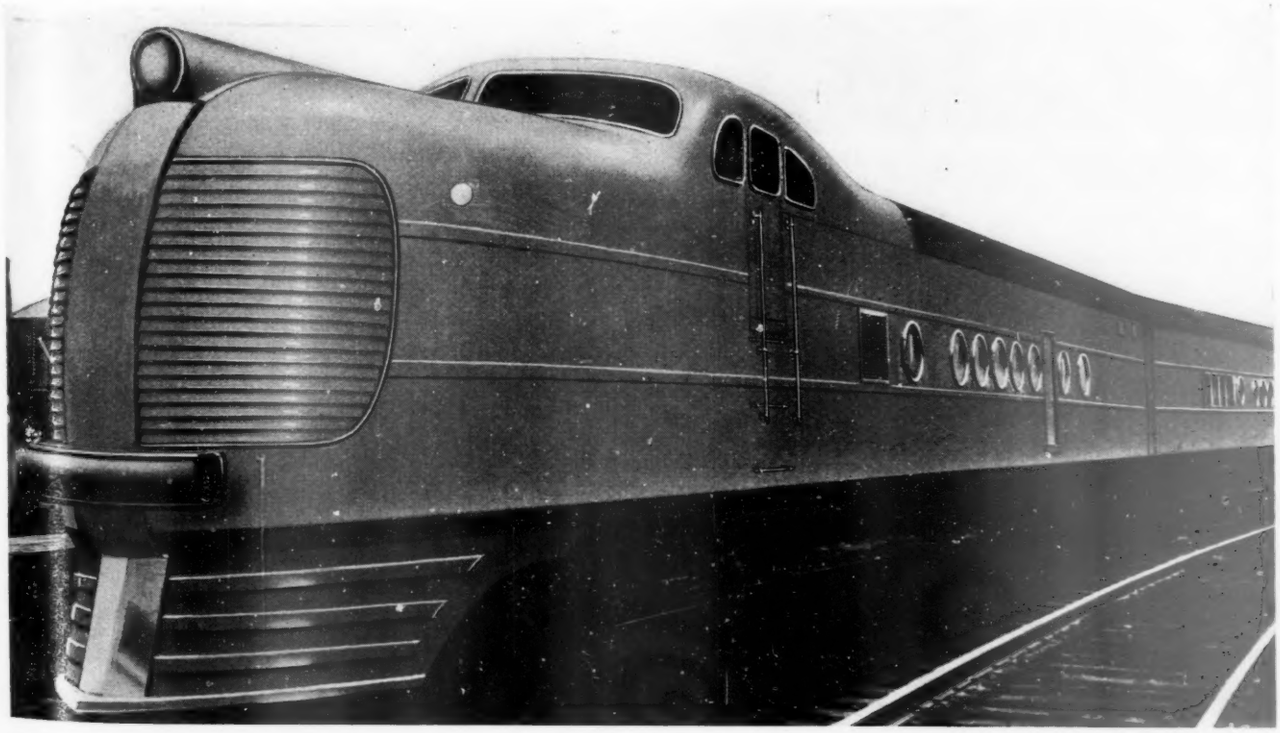
The provision of windows in the upper berths is a unique feature of these Pullmans; and still another innovation is the installation of two 6-ft. 6¾-in. berths, 6 in. longer than standard, in each of the 11-section cars for the accommodation of tall passengers.

The lounge room of the diner-lounge car is unusually smart and comfortable.. It is equipped with a radio, writing desk, tables for cards, and a well-stocked library of current magazines and the latest newspapers. In the spacious coach, next to the last unit on the train, ample luggage space is furnished in overhead racks and in two luggage compartments at the forward end. Deep-cushioned seats are designed for maximum comfort in long-distance travel and may be reclined to three positions to suit individual preference.

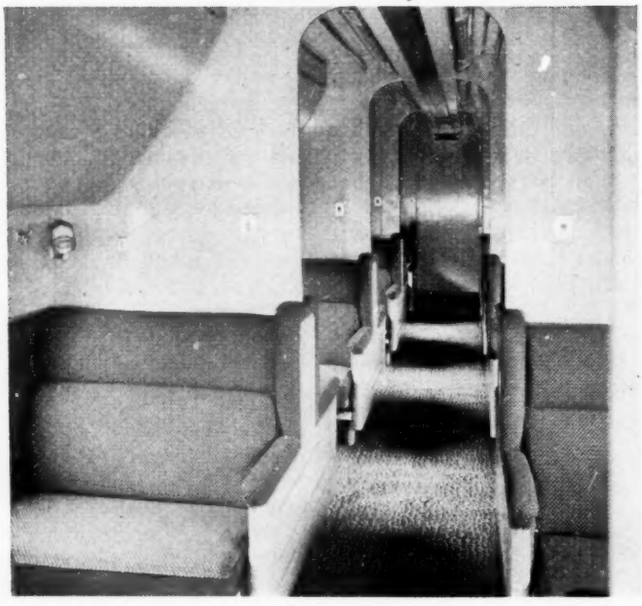
The coach-buffet car is equipped with a unique buffet-kitchen built into the fin-like tail of the last car of the train. It is well filled with compact facilities for the preparation of low-priced meals for coach passengers. Passengers in the two coaches are served at their seats on individual trays which, except at meal times, may be used for other purposes. Radio loud speakers are provided in each coach. Fresh soft pillows are furnished free to passengers in the coaches, and porter service is without charge. Lights are dimmed at night to insure restful sleep. A registered nurse-stewardess is employed to look after the welfare of all passengers, particularly elderly people and mothers with small children.

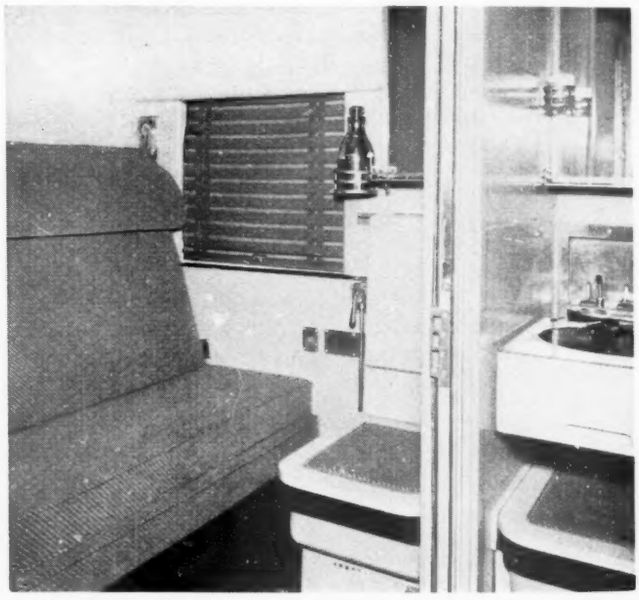
Body Design and Construction

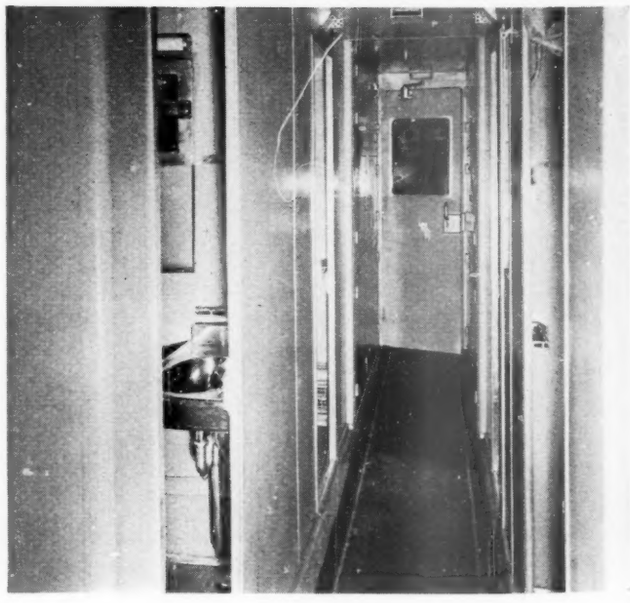
The locomotive body units of the M-10002 are built of strong aluminum alloys throughout, with the exception of high-tensile alloy-steel end sills and body bolsters.



The "City of San Francisco"







Interiors of Semi-Closed and Open-Section Pullmans (Above); Two Bedrooms Arranged en Suite and Center Corridor at Front of Buffet Coach (Right)

They comprise practically an unbroken tubular section, except for the removable roof hatch provided for the entry and removal of power plants. Important cast-steel structural members, such as draft gear housings, are made of special heat-treated alloy steel.

The thickness of the aluminum-alloy side sheets is $\frac{3}{16}$ in., this thickness extending into the curve of the roof and the bottom sheets. The thickness of the removable roof panel is $\frac{1}{8}$ in., and of the center portion of bottom sheets, also $\frac{1}{8}$ in.

The center sills consist principally of two girder sections 28 in. deep formed of $\frac{1}{4}$-in. plate with 6-in. by 4-in. by $\frac{3}{8}$-in. angles, spaced widely apart to form a power-plant well. Forward and back of the power-plant well these sills converge toward the center line of the car and are of reduced depth for clearance over the trucks. They are designed for a horizontal buffing load in excess of 400,000 lb.

There are no side sills, other than a continuous $\frac{3}{8}$-in. by 12-in. reinforcing plate placed outside of the sheathing at the usual side-sill height and extending the length of the car structure. These, with the center sills, the bottom sheets and heavy floor plates, form rigid box beams at each side of the power-plant well.

A similar construction is provided at the top corners on each side of the removable roof section which has a centrally located depressed trough open at the top to contain the exhaust drum or muffler. The engine-cooling radiators are located inside on each side of the depressed trough and secured directly to the removable roof. There are openings in the side sheets of the trough for the expulsion of cooling air from the radiators.

The side posts are extruded aluminum Z-sections, 3 in. deep, $\frac{1}{4}$ in. thick, and having $2\frac{11}{16}$-in. flanges. These side posts extend entirely around the car section except at the opening for the removable roof. The fastening of the side, bottom and roof sheets to the framing members is by $\frac{5}{16}$-in. Huck rivets, except where a larger size is required, in which case hot-driven steel rivets with special heads to match those of the Huck rivets were used. A feature of the Huck rivets is that they can be applied and driven from outside by a special pneumatic tool without backing up the head of the rivet.

The trailing body units are built of strong aluminum-

alloys throughout, with the exception of such parts as body bolsters and end sills which are of high-tensile alloy steel. The structures are of tubular form with side and roof sheets .156 in. thick.

Each body has a box-type center sill comprising two 10-in., 8.84-lb. aluminum channels with ⅜-in. thick by 20-in. wide top and bottom cover plates, so designed as to resist a buffing load in excess of 400,000 lb. Center sills are connected to the side sills and sheets with ⅛-in. thick pressed-pan needle beams spaced approximately 6 ft. apart longitudinally of the car, with floor stringer supports spaced between the needle beams.

The side sill is a special extruded aluminum section, continuous in length throughout the car. The side posts are extruded flanged channel sections extending continuously from the lower edge of the needle beam to the top center of the roof, forming continuous side posts and roof carlines.

Immediately below the roof are longitudinal members, extending the full length of the car and comprising extruded aluminum sections with numerous flanges for attachment thereto of frame members, ceiling, etc. These channels, in combination with the roof and a bottom

Interior of the Dining Room and a View of the Kitchen (Left); The Coach and the Interior of the Lounge Looking Toward the Dining Room (Above)

sheet, form the duct for air conditioning. The fastening of the side, bottom and roof sheets to the framing members is by 5/16-in. Huck rivets, except at points where rivets of a larger size are required.

Important cast-steel structural parts are of special heat-treated alloy cast steel. Conventional anti-telescoping features are built into the ends of the cars, consisting in this case of heavy aluminum plates extending across the car at the floor line back of the end sills and above the end doors of the cars.

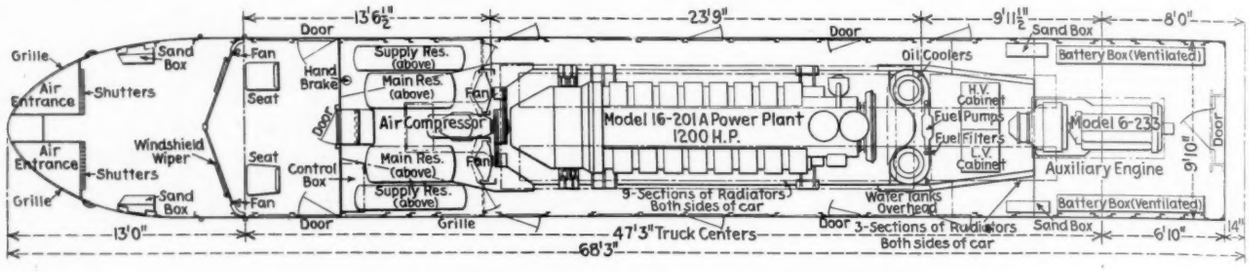
The trailing body units of the M-10004 are identical in every respect with those of the M-10002. The locomotive bodies, however, are quite different, being 11 ft. 3 in. longer and made of Cor-Ten steel with straight vertical sides, with cab set further back, and having circular engine-room sash set in chromium-plated frames. The front air intake grilles also are chromium plated.

The thickness of Cor-Ten steel sheathing in the M-10004 power cars is as follows: 13 gage for the removable portion of the roof, for the sides, and for the curved

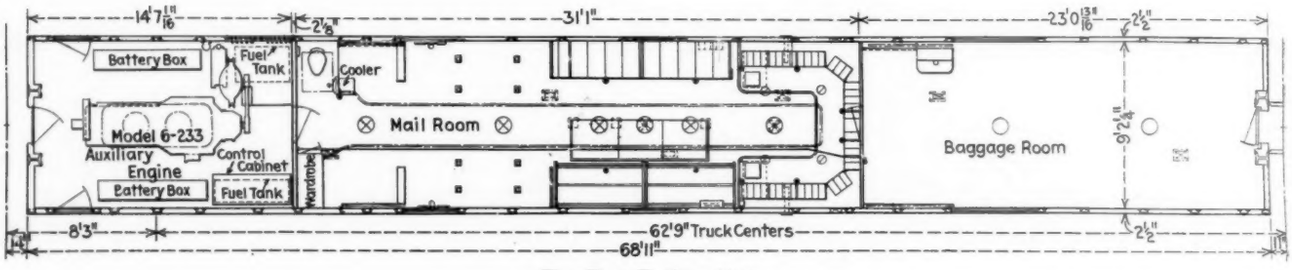
bottom sheets adjacent to the sides of the car; 16 gage for the center bottom sheets below the power-plant well; and 11 gage for the curved sheets of the roof adjacent to the sides of the car.

The side posts are 3-in. Z-sections, weighing 5.1 lb. per ft. The center sills at the power-plant well are Z-sections 26-in. deep, having ¼-in. webs and ⅜-in. flanges 3¼ in. wide. They are formed of plates and angles electrically welded together. Side sills are provided in these structures, in contrast to their omission in the M-10002 locomotive bodies, these being 3½-in. by 3½-in. by $\frac{5}{16}$-in. angles.

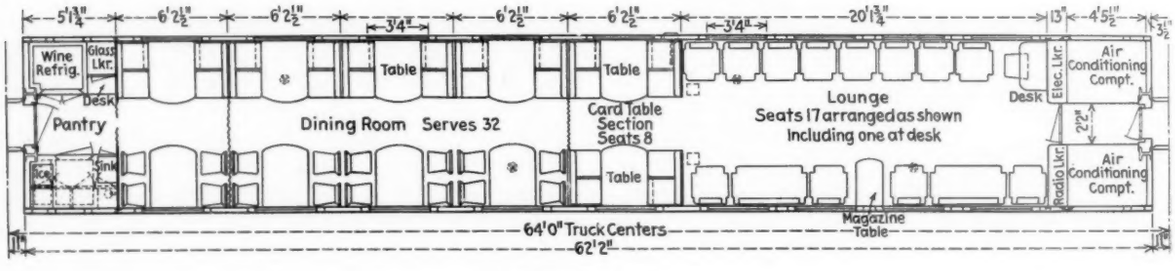
While both of the new trains embody primarily riveted construction, there is a total of 2,839 lin. ft. of arc welding in the M-10002 train, 352 lb. of welding rod being used. On the M-10004 train, including the Cor-Ten



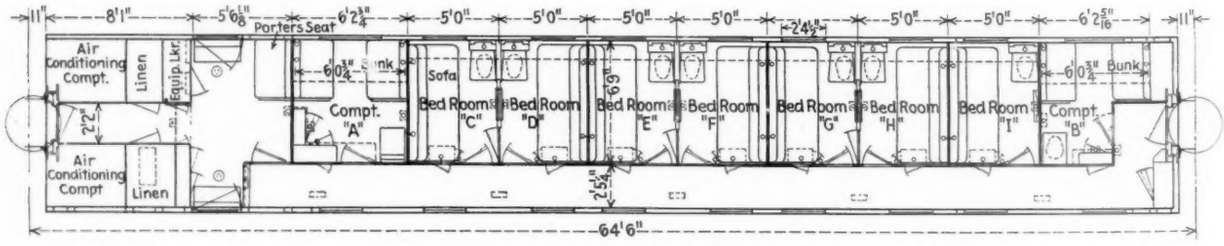
Leading Locomotive Unit of the "City of San Francisco"



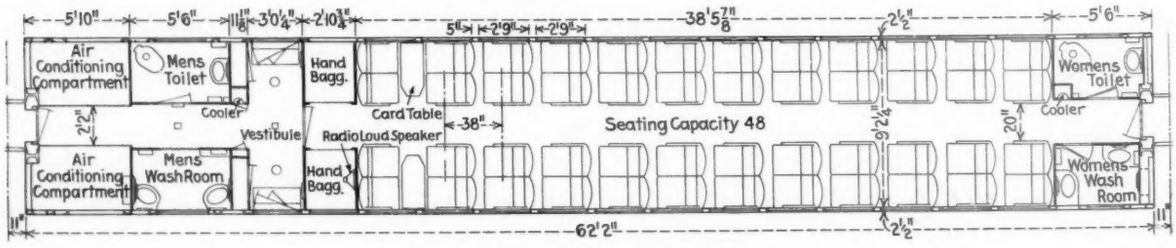
The First Trailing Unit



The Diner-Lounge



Compartment-Bedroom Sleeper



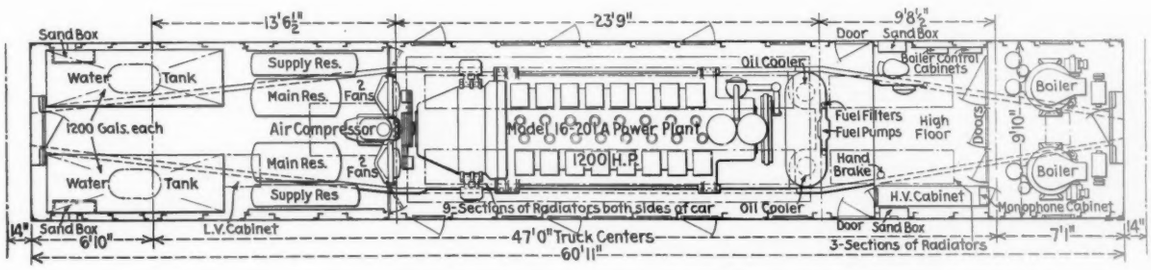
The Coach—Eighth Trailing Unit

steel locomotive bodies, there is a total of 7,690 lin. ft. of arc welding, 822 lb. of welding rod being used.

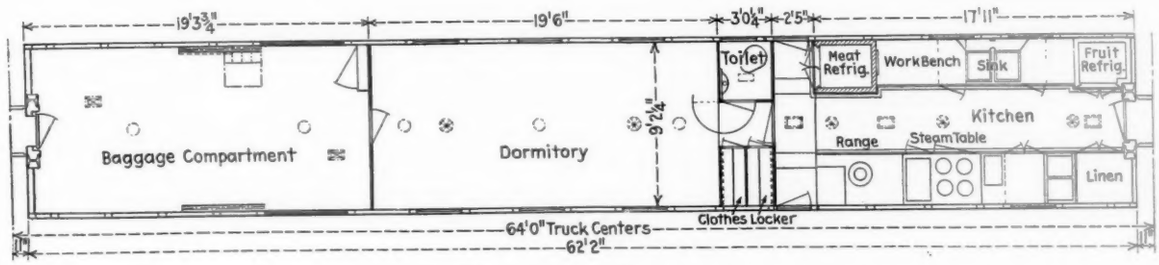
Articulated Connections Between Body Units

The two locomotive body units of each train are articulated through a steel bridge casting which spans the rear truck of the front unit and the forward truck of the rear unit. The locomotive couples to the train by means of National Traxo Tight-Lock couplers, designed with Type E heads and incorporating Spencer-Moulton rubber draft gears. Specially designed canvas diaphragms are used to close the space between these cars.

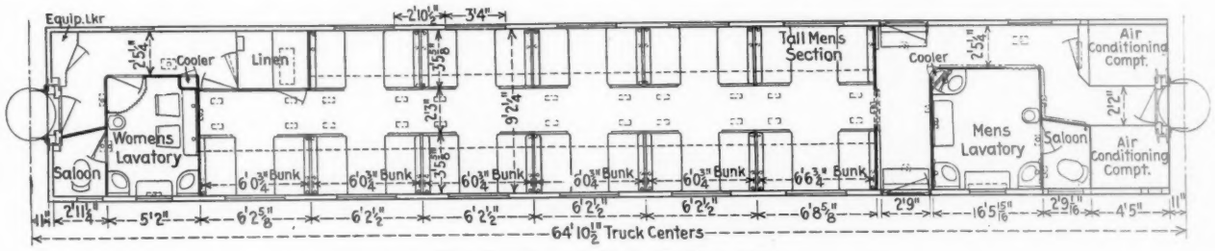
The trailing bodies are articulated throughout, lubricated semi-spherical center plates extending from the end sills of adjoining cars and nesting in a common



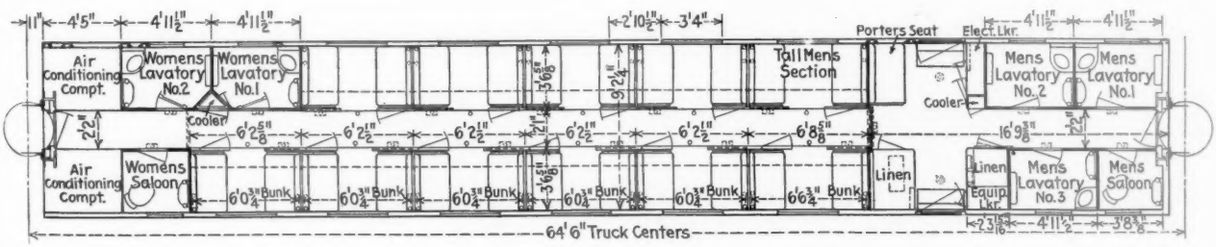
Second Locomotive Unit of the "City of San Francisco"



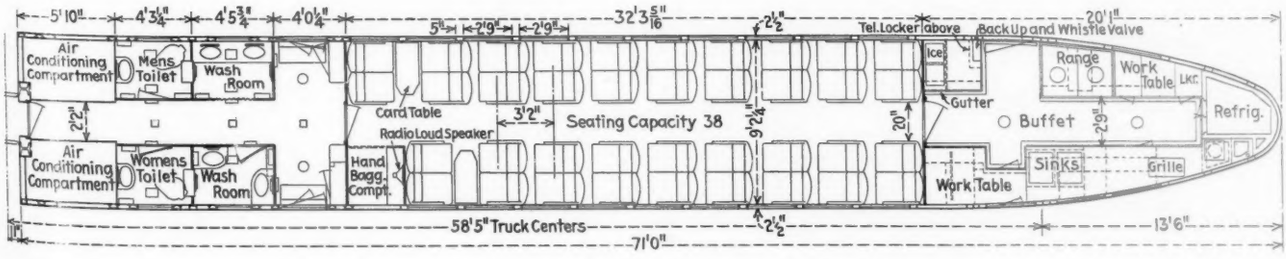
The Second Trailing Unit



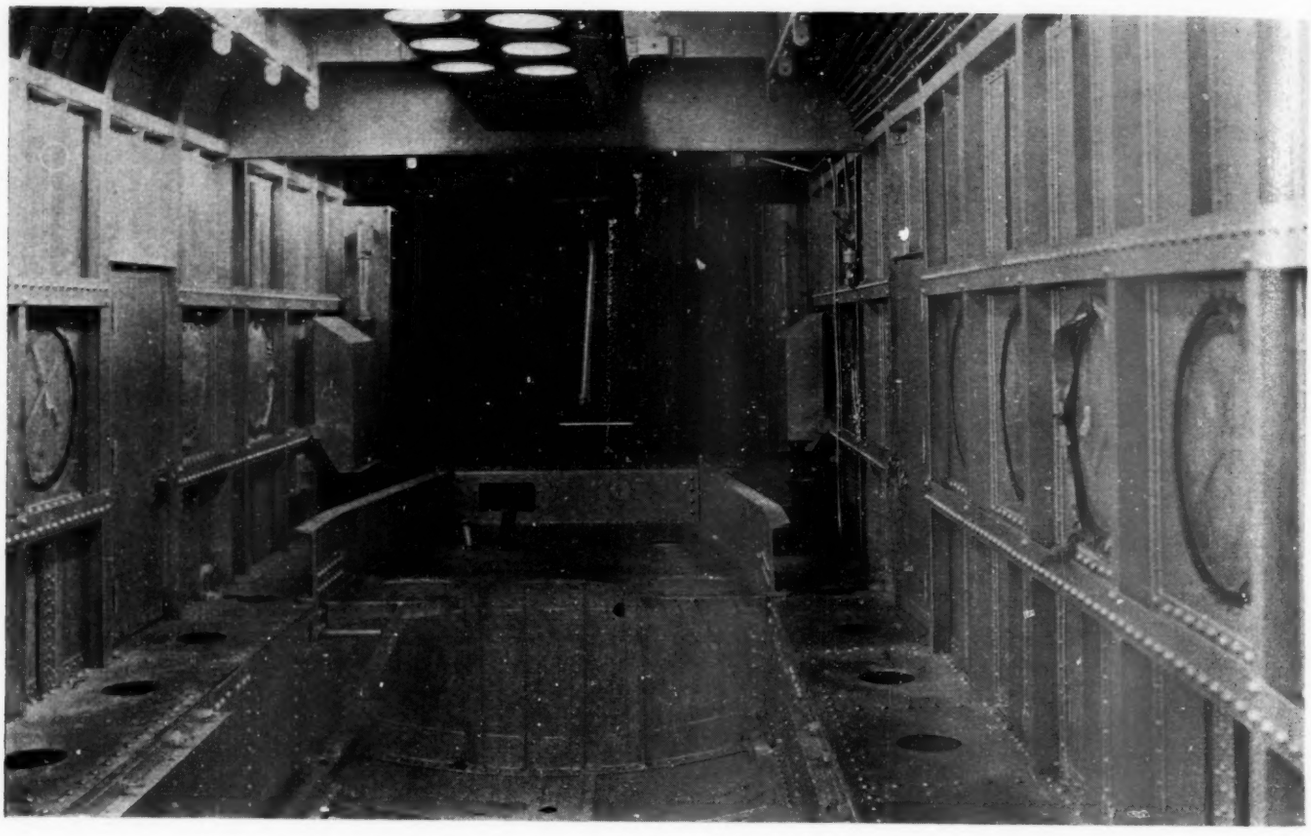
The Fourth and Sixth Trailing Units



Open-Section Sleeper—The Seventh Trailing Unit

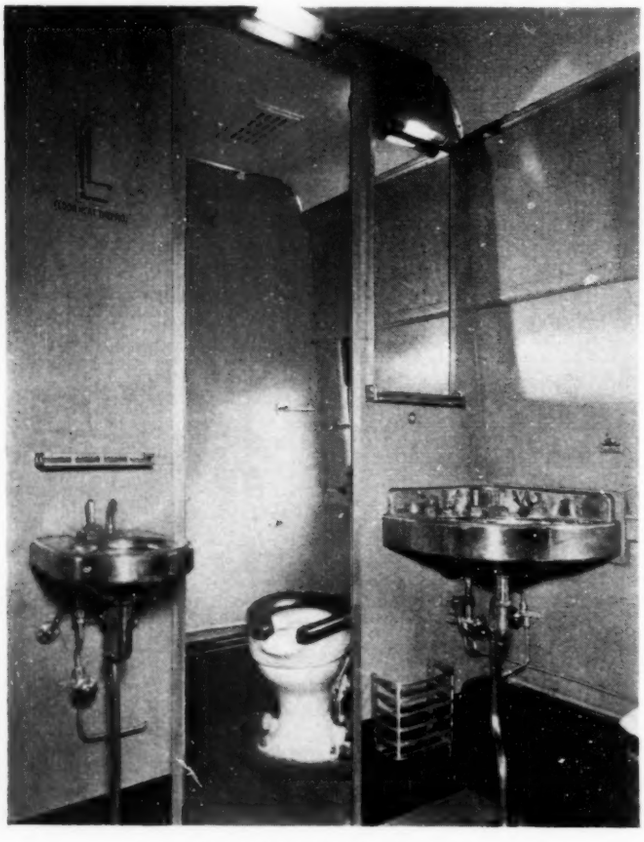


The Buffet Coach



Interior of One of the Cor-Ten Steel Locomotive Units in the Course of Construction

center plate cast integral on the truck bolster. A lock-type center pin is applied through each center plate nest as a safety measure. The gaps between the articulated cars are entirely closed at the sides and roofs by means of diaphragms of extra-stretch pigmented rubber, spanning from one car to the next. The passageways between the cars are also enclosed and dust-tight rubber inner diaphragms are used.



One of the Men's Washrooms

Drawbars are provided at both the front and rear ends of the train. The front drawbar is of the hinged type and the rear drawbar telescopes into the car; all openings both front and rear have flush cover plates.

In the locomotive only the cab is insulated, the floor with 1-in. hair felt and the roof and sides with 2-in. light-weight Salamander. The trailing body units are insulated with 2-in. light-weight Salamander, covered with Sisalkraft paper on both sides. Insulation is supported to the back of the roof sheets and fastened to the inside of exterior side and end sheets with cement and metal bands. A further insulation is provided by heavy felt insulating paper, cemented to the back of all headlining sheets and interior finish sheets in the passenger-carrying bodies.

The bottoms of bodies, which are completely closed with removable doors giving access to equipment, are likewise insulated, the insulation, however, being entirely sealed with Sisalkraft paper to protect it against any condensation that may accumulate within the enclosed area. At the ends of the structures and over the truck pockets where the space is restricted, layers of cork insulation are used.

The main sash in the passenger and sleeping compartments have Pittsburgh hermetically sealed dehydrated Unit-type glass in extruded aluminum frames. Each unit is made up of two lights of ¼-in. laminated glass. The toilet rooms and lavatories have similar dehydrated glass, the outer light being of Pressed Prism ¼-in. translucent design. The upper berths in the sleeping sections and in compartments in the bedroom car are fitted with dehydrated Unit-type sash, there being two

sash 12 in. wide in each berth fitted with Formica sliding panels to exclude outside light when not desired. The power cars have single glazed ¼-in. safety glass in hinged aluminum sash frames.

All exterior side doors and end doors and interior doors are of aluminum construction. Passenger side entrance doors are of hinged type, swinging inward. Baggage- and mail-compartment side doors slide on curved upper guide and lower track designed to bring the doors flush with the sides of the train when closed. Main end doors and toilet-room doors in the passenger-carrying units are designed with an anti-pinch feature.

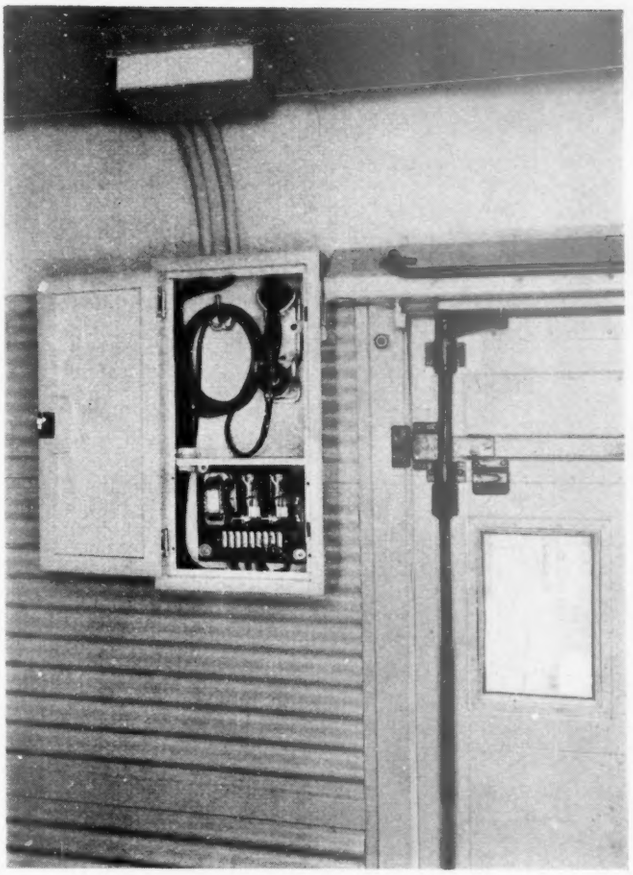
Forged steps, of designs to suit streamline train conditions, are provided for the cab and engine compartment, mail room and baggage compartment and loading side doors. Passenger entrance steps are of the pivoted type, operated with a sprocket and chain mechanism, so designed that the lower riser and tread form a part of the platform and door threshold and the back of the step lines up with the contour of the car shell and entirely closes the step opening when in raised position. No trap doors are used.

The exterior of the train is in two colors, leaf brown on the roofs down to the top of the letterboard and on the rounded bottom up to a line even with the bottom of the side door openings. A canary shade of yellow is used on the sides, separated from the brown with bands of scarlet, the top band being 1½ in. wide and the bottom band 2½ in. wide. The lettering is in gold leaf edged with black.

Heating and Air Conditioning

Each train is heated by dual Vapor high-pressure oil-fired boilers, burning the same fuel oil as that used in the main Diesel engines. Fin tubing and piping of copper is used in connection with a reduced steam pressure. The steam train line and other piping under live-steam pressure is of steel pipe. Flexible armored steam-line connections between the body units are looped upward so as to be self-draining. Standard Vapor metallic connectors carry the steam line across the space between the locomotive and the train. There are Pyle-National receptacles and jumpers for the electric lines and standard air-brake couplings and hose for the air lines.

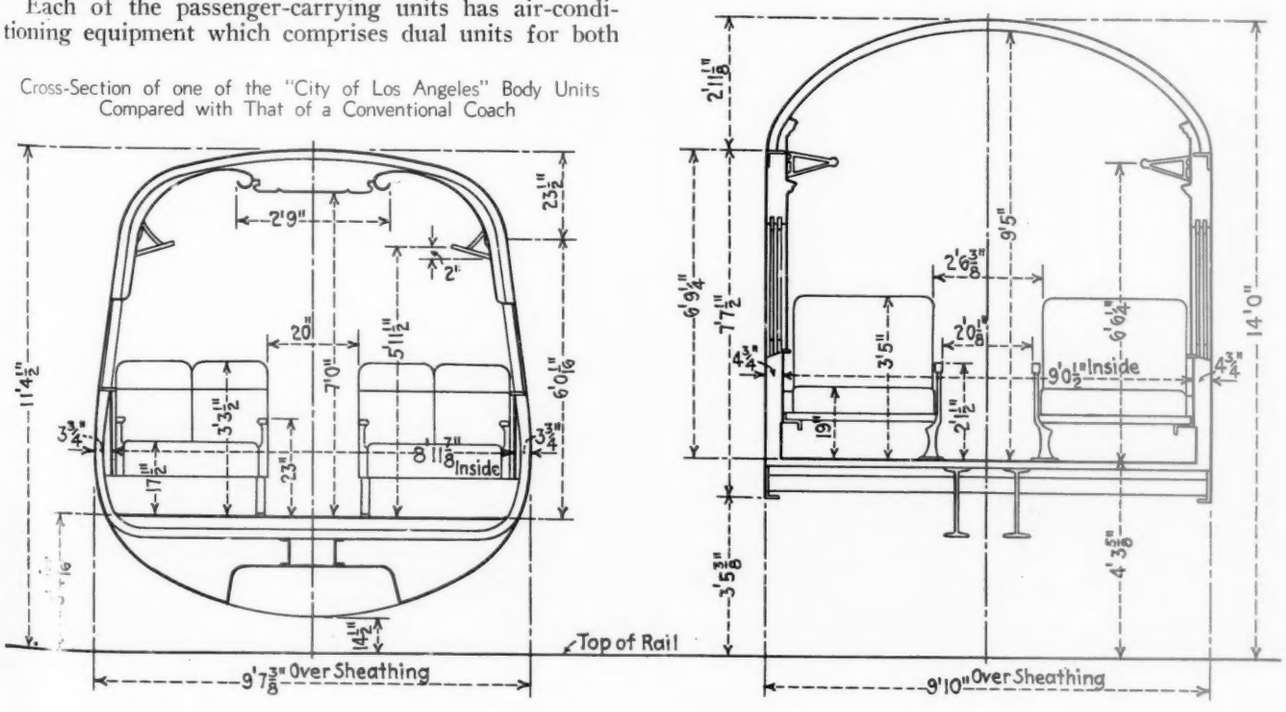
Each of the passenger-carrying units has air-conditioning equipment which comprises dual units for both



Automatic Electric Telephone Installation at Station No. 3 in the Baggage Car

(preheated air) heating and cooling, located in compartments, one on each side of one end of each unit. Each compartment contains in the lower section a complete condensing unit comprising a Frigidaire compressor and 220-volt, 3-phase, a. c. motor, driving the compressor, with a condenser fan mounted on the opposite end of

Cross-Section of one of the "City of Los Angeles" Body Units Compared with That of a Conventional Coach



One of the 1,200-Hp., 16-Cylinder Diesel-Engine Power Units

the motor shaft and a condenser, a receiver tank and necessary piping. Air for condenser cooling is drawn in through the floor and blown out through the side of the car.

The upper section of the compartment comprises the cooling and heating equipment, including blower fans, filters, heating coil, cooling coil and the necessary piping, fittings, valves, etc. Air circulation is through a center overhead duct; in the sleeping cars there are branch ducts from the main duct to the berths. Fresh air in all cases is drawn in through the side of the car. The two units on each side of the car are connected in parallel.

Floor heat coils under thermostatic control are used as the balancing element in maintaining car temperatures. Thermostatic control is used for both cooling and heating. Essentially, this control is the same as used on standard air-conditioned cars. For ventilation purposes there are bottom rail sash ventilators in the dormitory car to supplement the roof exhaust fans. Exhaust fans are also provided in the dining and lounge sections, bedrooms, kitchen, buffet, mail room and crew's dormitory.

The brake equipment is of the Decelakron electro-pneumatic control, light-weight H S C type, with brake cylinders truck mounted. Aluminum tubing and flared fittings are used throughout except on the trucks and piping extending outside of the bottoms of cars, which is of heavy steel pipe. A lever-handle type of hand brake is provided in each of the locomotive units, at the forward end of the first trailing unit and in the rear unit.

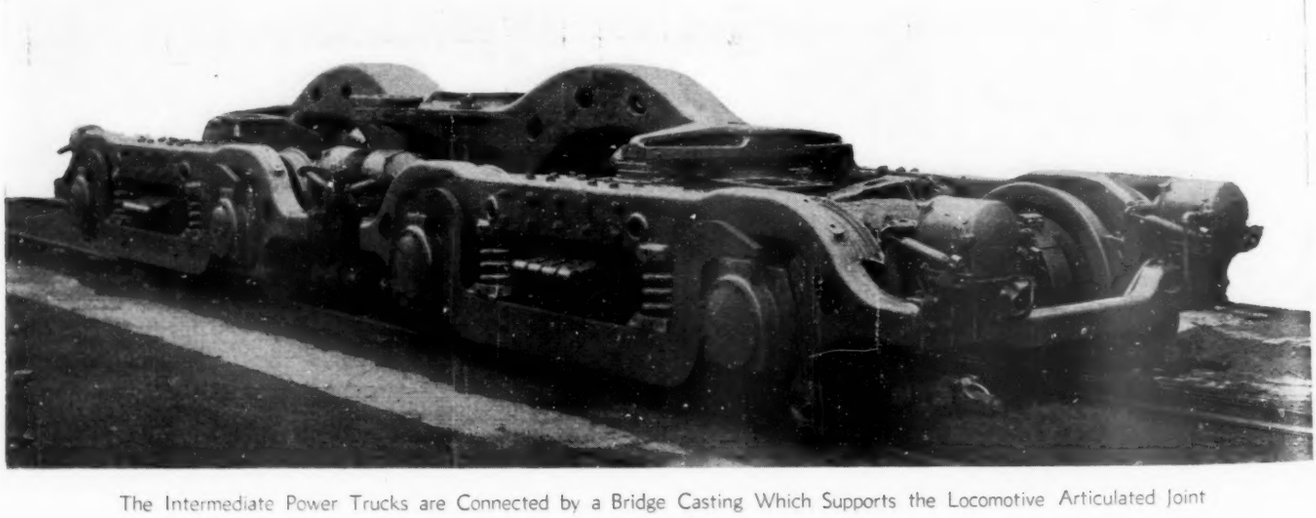
Gravity tanks supply water for the toilet facilities in the second locomotive unit and in the mail compartment. For the balance of the train, a separate air-pressure water system is provided on each unit. Aluminum tubing and fittings for water supply are used throughout. The hot water supply is provided by means of jackets in the steam train line. The kitchen and buffet hot water is supplied through the ranges.

The interior finish and headlinings, throughout, are of aluminum-alloy sheet construction with moldings and extruded sections also of aluminum alloy.

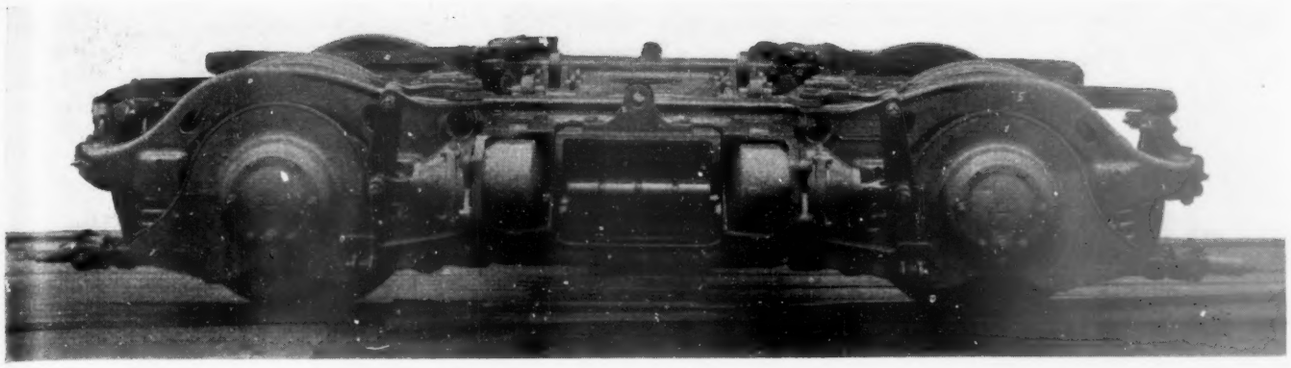
Coach and Coach-Buffet—The coach and coach-buffet main walls are finished in metallic blue of graded shades and headlinings in bluish-white color, with satin finish aluminum moldings and bands. Window cappings are of black Caf-O-Lite. Two-tone cork tiles, consisting of 12-in. squares $\frac{5}{16}$ in. thick, cover the main flooring in these cars. The carpet aisle strips are of a mauve shade, with gold and blue border lines, applied over $\frac{1}{4}$-in. sponge-rubber padding.

The seats are Heywood-Wakefield twin-reclining type, of aluminum construction, upholstered with a two-tone amber gold mohair covering the Dunlopillo rubber cushions and backs. Each seat back has a flush concealed serving tray, also a flush-type ash and cigarette receptacle. The window shades are of aluminum-backed Pantasote faced with a horizontal striped fabric to simulate Venetian blinds.

Each coach has two section tables. Continuous clothes racks of polished aluminum are installed. Hardware is furnished with a satin aluminum finish. The main lighting is indirect, with lighting units in two rows along the center line of the car. A 15-tube radio receiving



The Intermediate Power Trucks are Connected by a Bridge Casting Which Supports the Locomotive Articulated Joint



Union Pacific-Pullman Standard Trailer Truck

set, installed in the buffet, is connected to loud speakers in each coach compartment.

Diner-Lounge Car—The walls are finished in warm French gray of graded shades and the headlining is light gray, with satin finish aluminum bands and moldings; the window capping is black. The carpet throughout this car is of a henna shade, applied over ¼-in. sponge-rubber padding. The small pantry flooring in the forward part of this car is of designed Pyroflash tiles.

The settees and lounge chairs are covered with a two-tone chevron motif mohair and a green curly mohair. The seats and the chairs in the dining room are made with rubber cushions and upholstered in mauve mohair. Window shades are similar in motif to those in the coach. Etched mirrors are used on the forward bulkhead of the dining room and an open grille header and etched plate glass panels divide the card section from the dining section.

Sleeping Car—The bedroom-compartment car is finished in gray-blue enamel and blue friezette plush upholstery in the two compartments; yellow enamel and green friezette plush upholstery in four of the bedrooms, and salmon color enamel and brown friezette plush upholstery in three bedrooms. Stationary shelves and hopper seat linings are made of Formica.

The three 11-section sleepers have bluish-white ceilings and gray-blue enamel side walls. The section seats in these three units are upholstered in brown fabric of basket weave pattern. The section seats, which are adjustable from sitting to lounging position, have headrests, seat and back cushions and mattresses made of Dunlopillo rubber construction. Folding seats in the lavatories of the enclosed section sleeper are upholstered in blue-gray leather in the men's rooms and blue plush in the women's rooms.

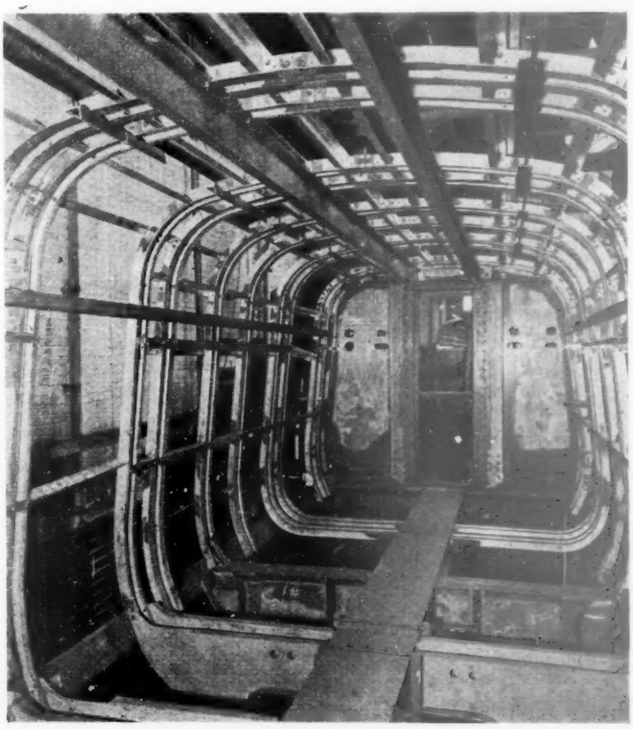
Black and dark gray mottled rubber tiling floor covering is used in the salons, lavatories and passageways in the three 11-section sleepers, also in the vestibule end passageway in the bedroom car. The main portions of the three 11-section sleepers are carpeted with alligator design carpet of black, taupe and gray colors.

Kitchen, Pantry and Buffet—The kitchen and the buffet have coal-burning type ranges, broilers and warming ovens, adapted for use of pressed wood logs as fuel. The kitchen also has a steam table. Refrigerators are mechanically cooled, using General Electric cooling units. Polished stainless steel is used for table tops and sinks. Refrigerators have stainless steel in provision chambers; table ice boxes and ice wells are lined with heavy galvanized steel. Interior finish elsewhere is of aluminum. An annunciator for waiter service with push buttons is conveniently located in the diner-lounge car.

Headlights, Marker Lights, Signals, Etc.—The Pyle-National horizontal and vertical beam headlights are in a housing on the roof over the operator's cab. A General Electric electric speed indicator is driven from the end of one of the front power-truck axles, with a dial in the cab to show train speeds, which are governed by Union Switch & Signal automatic train-control equipment with cab signals. Marker lights on each side of the car close to the rear end of the train are practically flush with the contour of the exterior. These lights are wired to the battery circuit. Classification lights are provided at the front end of the operator's cab on each side of the locomotive, fitted with white and green lens.

An electro-pneumatic inter-train signal transmission system is employed, with pushbuttons conveniently located adjacent to each side door. In addition, an important innovation is the Automatic Electric intercommunicating telephone system installed for the exclusive use of the train crew. The Magnetic Monophone principle is employed. There are four telephone stations, including one in the locomotive cab, one in the second locomotive unit, one in the front baggage section, and one in the buffet-coach.

Warning devices consist of a dual pneuphonic horn



Construction of the Aluminum-Alloy Underframe and Tubular Superstructure Frame

and a 50-lb. Hammett bell with bell ringer. A pneuphonic warning horn is also located at the rear end of the train for use during back-up operations. A specially designed rubber bumper is applied at the front end of the locomotive.

Power and Trailer Trucks

Each of the four four-wheel equalizer-type power trucks (per train) has an 8-ft. 4-in. wheelbase, 36-in. diameter rolled-steel wheels, and roller bearings mounted on special forging quality carbon-steel axles. Lebanon cast channel-shape side-frames are provided, with transom and end frames cast separately and bolted to the side-frames. All frame joints are machined; all holes are jig drilled and machine reamed to take 1-in. diameter turned bolts with Grip lock nuts. Hanger brackets for brake heads are cast as part of the transom and side frame.

The spring suspension includes a double combination of long-travel coil equalizer springs and elliptic bolster springs. The truck frame is supported on equalizer springs seated on drop equalizer bars. All truck springs are made of either silico-manganese or chrome-vanadium steel, heat-treated.

Unit braking is used, with four cylinders per truck. The clasp brakes are designed for four 12½-in. shoes per wheel. The screw-type slack adjuster is manually operated. All brake members are spring joined to eliminate rattle. Brake heads are suspended with patented non-chattering balanced brake hangers, insuring even shoe wear and positive release. The entire brake rigging is designed to eliminate yield, making it very sensitive to application and release pressures.

Spherical-type truck center plates are cast as part of the truck bolster and sealed to form an oil reservoir for lubricating. All wear plates are of manganese steel with ground finish. Manganese-steel bearing surfaces are supported by rubber and wood blocks encased in the cast-steel side-bearing supports.

The trailer trucks are the new Union Pacific-Pullman Standard four-wheel type with 8-ft. wheel base and 34-in. diameter, cylindrical-tread rolled steel wheels. The frames are heat-treated alloy-steel castings. The side frames are U-shape, box-cast trusses and the transoms cast box sections. The side frames and transoms are of the non-integral type, connected by bolting at the top and bottom. As in the case of the power trucks, all joints are machined and bolt holes jig drilled and machine-reamed for 1-in. diameter turned bolts with lock nuts. Hanger brackets for brake heads are cast integral as part of the transoms and side frames.

The spring system is a triple combination of long-travel, alloy-steel journal-box springs, short-travel intermediate bolster springs, and elliptical main bolster springs. The truck frame is mounted on helical springs, seated low at each side of the journal-box housing to provide long travel for these springs, and maintaining clearance for a low car floor. The ingenious combination of springs and suspension in this truck is designed to eliminate the harmonics and uncomfortable riding experienced in trucks of conventional design. When operated at high speeds in trans-continental service it is expected that the new trucks will furnish easy and steady

Partial List of Specialties on the Union Pacific Trains M-10002 and M-10004

Builder, complete train	Pullman-Standard Car Mfg. Co., Chicago
Aluminum sheets and shapes	Aluminum Company of America, Pittsburgh, Pa.
Cor-Ten steel, M-10004 power cars	United States Steel Corp., New York
Diesel-electric power plants	Electro-Motive Corp., LaGrange, Ill.
Castings, steel	Lebanon Steel Foundry, Lebanon, Pa. Locomotive Finished Material Co., Atchison, Kan. American Steel Foundries, Chicago Chicago Steel Foundry Co., Chicago
Electric generators and motors	General Electric Co., Schenectady, N. Y.
Electric transformers	Graybar Electric Co., Chicago
Exide batteries	Electric Storage Battery Co., Phila., Pa.
Electric speed indicator	General Electric Co., Schenectady, N. Y.
Air compressor	Gardner-Denver Co., Quincy, Ill.
Engine-cooling radiators	Young Radiator Co., Racine, Wis.
Air brakes, M-10002	New York Air Brake Co., New York
Air brakes, M-10004	Westinghouse Air Brake Co., Wilmerding, Pa.
Hand brake handles	Dayton Manufacturing Co., Dayton, Ohio
Train control	Union Switch & Signal Co., Swissvale, Pa.
Brake shoes	American Brake Shoe & Fdry. Co., Chicago
Wear plates	Manganese Steel Forge Co., Phila., Pa.
Tight Lock couplers	National Malleable & Steel Castings Co., Cleveland, Ohio
Emergency couplers	McConway & Torley Corp., Pittsburgh, Pa.
Spencer-Moulton rubber draft gears	Vaugh Equipment Co., New York
Roller bearings, M-10002	SKF Industries, New York
Roller bearings, M-10004	Timken Roller Bearing Co., Canton, Ohio
Rubber diaphragms	United States Rubber Products, Inc., New York
Canvas diaphragms	Tuco Products Corp., New York
Rolled steel wheels and axles	United States Steel Corp., New York
Alloy steel springs	American Locomotive Co., New York
Nuts	Grip Nut Co., Chicago
Insulating materials	American Hair & Felt Co., Chicago Armstrong Cork Products Co., Lancaster, Pa. David E. Kennedy, Inc., New York
Formica table tops, shelves, etc.	Formica Insulation Co., Cincinnati, Ohio
Electric refrigerator equipment	General Electric Co., Schenectady, N. Y.
Air conditioning units	Frigidaire Corp., Dayton, Ohio
Blower fans	American Blower Co., Detroit, Mich. Safety Car Heating & Lighting Co., New York
Air filters	American Air Filter Co., Lousiville, Ky.
Postal car mail facilities	Pullman-Standard Car Mfg. Co., Chicago
Steam heating equipment	Vapor Car Heating Co., Chicago Crane Company, Chicago Chase Brass & Copper Co., Waterbury, Conn.
Headlights, marker lights, etc.	Pyle-National Company, Chicago
Sash and glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa. Pressed Prism Glass Co., Chicago
Window curtains	Pantasote Co., Inc., New York
Roll louvre sliding curtains	H. B. Dodge & Co., Chicago
Curtain fixtures	Pullman-Standard Car Mfg. Co., Chicago National Lock Washer Co., Newark, N. J. Adams & Westlake Co., Chicago
Portiere fabric	Cheney Bros., New York
Chair car seats	Heywood-Wakefield Co., Gardner, Mass.
Rubber chair cushions, head rests and mattress pads	Dunlop Tire & Rubber Corp., Buffalo, N. Y.
Lounge car chairs	S. Karpen & Bros., Inc., Chicago
Seat coverings	Massachusetts Mohair Plush Co., Lowell, Mass. Collins & Aikman Corp., New York Wm. Wiese & Co., New York L. C. Chase & Co., Boston, Mass. Blanchard Bros. & Lane, Newark, N. J.
Radio equipment	R.C.A. Victor Dist. Corp., Chicago
Water filter	H. Giessel Co., Chicago
Cup dispensers	Individual Drinking Cup Co., Easton, Pa.
Lighting fixtures	Safety Car Heating & Lighting Co., New York Pullman-Standard Car Mfg. Co., Chicago Luminator Inc., Chicago
Relays	Allen-Bradley Co., Milwaukee, Wis.
Inter-train telephone system	Automatic Electric Company, Chicago
Electric fittings	Aluminum Company of America, Pittsburgh, Pa. Pyle-National Company, Chicago Graybar Electric Co., Chicago General Electric Supply Co., Chicago Westinghouse Elec. Supply Co., Chicago A. & J. M. Anderson Mfg. Co., Boston, Mass.
Flooring and filler	David E. Kennedy, Inc., New York Johns-Manville Corp., New York
Linoleum	Armstrong Cork Products Co., Lancaster, Pa.
Pyroflash floor tiles	United States Tile Corp., Indianapolis, Ind.
Rubber tiling	Manhattan Rubber Mfg. Co., Passaic, N. J. United States Rubber Products, Inc., New York
Carpet	Chas. P. Cochrane Co., Phila., Pa. Bigelow-Sanford Carpet Co., New York Karagheusian, A. & M., New York
Sponge rubber carpet padding	United States Rubber Products, Inc., New York
Door checks and locks	Yale & Towne Mfg. Co., Stamford, Conn.
Hardware and trimmings	Pullman-Standard Car Mfg. Co., Chicago
Window cappings	Caf-O-Lite Co., Muskegon, Mich.
Pipe and fittings	Crane Company, Chicago Imperial Brass Mfgf. Co., Chicago Chase Brass & Copper Co., Waterbury, Conn.
Washstands	Pullman-Standard Car Mfg. Co., Chicago Adams & Westlake Co., Chicago
Faucets and soap dispensers	Imperial Brass Mfg. Co., Chicago
Hoppers	Duner Company, Chicago
Hopper seats and lids	Brunswick-Balke-Collender Co., Chicago
Towel cabinets	A. P. W. Paper Co., Chicago
Paint, outside	Thresher Varnish Company, Dayton, Ohio
Paint, inside	Pittsburgh Plate Glass Co., Pittsburgh, Pa. Pratt & Lambert, Inc., Buffalo, N. Y.

riding cars with the maximum comfort for passengers.

The trailer trucks also have four brake cylinders per truck, truck mounted. Clasp brakes are used, with four 9-in. shoes per wheel. All brake members are designed to eliminate rattle and wear and brake heads are suspended by the friction-balanced brake-hanger arrangement mentioned to assure alignment and even shoe wear. No offset rods or levers are used, the entire brake rigging being specifically designed to deliver braking force directly to the brake shoes without yield or slippage, making the brake sensitive to application and release.

Side bearings at the articulated connections are manganese steel wear blocks, mounted on helical springs which are, in turn, supported by a differentially balanced rocker arm. Side bearings at non-articulating trucks are of the roller type.

The power plants for the M-10002 are of the Diesel-electric type, with a combined rating of 2,100 hp., these being supplied and installed by the Electro-Motive Corporation, LaGrange, Ill. The main engine of the first locomotive unit is a V-type 16-cylinder, high-compression, two-cycle oil engine of 8-in. bore and 10-in. stroke, developing a rated output of 1,200 hp. at 750 r.p.m. This is direct-connected through a flexible coupling to a General Electric d.c. generator which furnishes electric power for the 300-hp. nose-suspended traction motors. Electric control equipment is of the P C L type. The second unit has a 12-cylinder, 900-hp. unit of the same make and type.

The power plants for the M-10004 have a total rating of 2,400 hp. and consist of two of the 1,200-hp. engines, one in each of the two locomotive units. Each locomotive has a total of eight traction motors, two on each of the four motor trucks.

The main engines are cooled by means of radiators mounted in the roofs, the heat from the engines being dissipated to air which is taken in at the front end of each unit, passed through a partition forward of the engine in which are mounted four engine-driven fans, and discharged through the radiators to openings in the sides of the depressed trough in the roof. Cooling water for one of the auxiliary engines is piped into the main cooling system, and the other has its own cooling system of a character similar to that of the main engines.

A 32-cell MVAH 25-plate Exide Ironclad battery is furnished in each power car to supply power for engine starting, transmission control, cab and engine-room lights and emergency train lights. It has a capacity of 450 amp. hr. at the 10-hr. discharge rate.

All auxiliary electric power for the train is furnished by two 75-kv.a., 220-volt, 3-phase, 60-cycle Diesel-driven alternators with direct-driven 7.5 kw., 78-volt, d.c. exciters. The exciters are paralleled through proper reverse-current relay controls with MVAH-25 lead-type battery sets.

One auxiliary plant, located at the rear of the front locomotive unit, flanked by the battery compartments for this unit, supplies 220-volt, a.c., 3-phase current to all of the air-conditioning compressor motors which also drive the condenser fans. The exciter battery circuit furnishes d.c. for traction-motor controls, electro-pneumatic brake valves, sander valves and the train telephone system, with loud speaker and amplifier (220-volt, a.c. supply) in the cab. D.c. power is also used for the headlights, the marker lights, the engine-room lighting, windshield wipers, and anti-frost fans at the cab windows. This d.c. circuit is carried through the entire train, and also supplies operating current to all air-conditioning thermostat and valve controls.

The second auxiliary plant is located in a special compartment at the forward end of the mail and baggage unit and flanked by a battery set at that point. This set, other than being used locally for starting up the Diesel engine and for local auxiliary room lighting, is kept in reserve but may be cut into the battery-circuit d.c. train line for the air-conditioning controls, etc., as required.

The 220-volt, a.c., 3-phase power is used primarily for lighting of the entire train, but is used also for operating the blower fans in each body unit for air conditioning, forced-air circulation, and in the case of the diner, to better proportion the electrical loading on the two plants. It also supplies power to the compressor motors at that point only. This second plant train line also supplies power to the kitchen refrigerators in the diner and in the buffet (rear), to the various appliances, such as drink mixers, toasters, etc., to exhaust fans, and to the radio receivers in the diner and buffet cars. Mail-car lighting is available on a.c. or d.c. through proper relay control, using the auxiliary plant battery as the emergency supply.

To prevent all compressor motors coming in at the same time on initiating service, a timing control line, fed from a master under-voltage relay in the baggage car, supplies a series of timing relays set at different time adjustments which permit the completion of control circuits between cooling thermostat relays and compressor motor starters only in the proper time sequence. Should an overload take place at any time, the under-voltage relay drops out for an instant, stopping all the motors, and then reconnects the timing circuit, which requires each motor to come in again at the proper time.

A cross-tie switch permits inter-connection of both electric train lines so they may be fed in common from either generating plant. For stand-by terminal service, 3-phase, 220-volt receptacles are provided at each car to allow using station power during layovers.

Eastern Roads Launch Court Test of Reduced-Fare Orders

TWENTY-THREE Eastern railroads, including all of the principal lines except the Baltimore & Ohio and its affiliates, on May 23 filed in the United States District Court for the Southern District of New York a petition for an injunction to restrain the Interstate Commerce Commission from enforcing its orders requiring on June 2 reductions of basic passenger fares to two cents a mile in coaches and three cents a mile in Pullmans without surcharge. Meanwhile the same Eastern roads, which have filed the reduced-fare tariffs "under duress," are participating in joint newspaper advertisements, calling attention to "Sweeping reductions in rail fares beginning June 1."

The Petition

The petition (the Ann Arbor Railroad Company et al vs. United States of America) seeks, upon five days notice to the Interstate Commerce Commission and the Attorney General of the United States, a hearing before three judges, and "after such an interlocutory injunction enjoining, setting aside, annulling and suspending" the fare orders; also, upon final hearing, a permanent injunction decreeing that the orders are null and void, and their inforcement "forever enjoined."

The foregoing plea is based upon contentions set forth in summary form as follows:

1. The orders are not within the power of the Commission.
2. The orders exceed the constitutional limits of regulatory power, and if the Act properly construed purports to delegate

power to make such orders, the Act in that respect is unconstitutional.

3. The orders are not supported by substantial evidence, but are contrary to the evidence.

4. The orders amount to a taking of petitioners' property without just compensation.

5. The orders are confiscatory.

6. The orders are based upon mistakes of law.

7. The orders are arbitrary and so encroach upon the duties, prerogatives and responsibilities of management and ownership as to amount to a taking of petitioners' property without due process of law.

8. The orders are arbitrary and capricious in that while purporting on their face to be based upon a finding of unreasonableness, they are in substance based upon nothing more than a hope and speculation by the Commission that its judgment will prove to be superior to that of the responsible railroad managers.

The petition opens with a brief outline of events leading up to the final fare order of April 18, denying the petition of Eastern roads for a postponement for 18 months during which they might "experiment voluntarily with fares less drastically reduced." It points out how tariffs were filed "under duress and in order to escape drastic penalties" and contends that, though the April 18 order and that of May 19 applying to the Long Island are "negative in form they are affirmative in effect in that they operate to direct service under the fares prescribed by the order of February 28, 1936."

3.6 Rate Often Found Reasonable

The evolution of the 3.6 rate and surcharge is next outlined, the petition in this connection calling attention to the fact that the commission, in many cases since the establishment of those rates in 1920, "not only reiterated its findings of the reasonableness of such bases of passenger fares and surcharges, but also in proceedings under Section 13 of the act, prescribed such bases for intrastate travel in all states in Eastern territory where lower fares were in effect." These fares and charges, the petition continues, are still just and reasonable since there has been no change in conditions which would warrant a different finding. New competition and the depression are not circumstances which make them unreasonable since passenger service and facilities have been greatly improved and for several years none of the petitioners, with the single exception of the Chesapeake & Ohio, has earned a fair return.

Thus, the petition contends, the findings of the commission in the passenger fare report are "without support in the record and are contrary to the evidence." Such finding, being based on the commission's prophecy that the reduced fares will stimulate traffic, is a finding in form only—"in effect and substance it is only a surmise or prophecy," and it is contrary to the judgment of the petitioners' passenger traffic officers. It is next pointed out that passenger traffic in the East is predominantly travel between large centers, consisting "to an important extent" of professional and business travelers, "who would not travel in greatly increased volume, if fares were reduced." On the question of the commission's contention that the low fares are necessary to meet competition the petition holds that "Neither the Interstate Commerce Act nor any other law authorizes the commission to require railroads subject to its jurisdiction to meet competition of other means of transportation." The action of the Commission in finding such powers for itself is called unconstitutional because it involves such encroachment upon the prerogatives of ownership and management as to amount to "a taking of petitioners' property without due process of law."

Of the alleged unpopularity of the surcharge the petition says that even if, "contrary to the fact," the surcharge were unpopular, this would not furnish lawful grounds for an order eliminating it "in view of the fact that such fares and surcharges are not more than reasonable, but on the contrary are less than the cost to petitioners, individually and collectively, of furnishing the service."

Advertising of New Rates

The joint advertisements of the June 1 reductions indicate that, despite their protest, the railroads plan to do all in their power to make a success of the new fare bases. These advertisements, being published over the name "Eastern Railroads," acclaim the two-cent coach rate and three-cent Pullman rate as fares at which "everybody can afford the safety, speed, and comfort of travel by train." They point out that "no other method of transportation can match the marvelous safety record of American railroads" and urge travelers to "let the engineer do your driving" thereby avoiding "the dangers of public highways."

Similar advertising of the Pullman Company is stressing the reduction in costs of travel in parlor and sleeping cars. These announcements set up the savings as ranging from one-fifth to one-half. They point out that, in addition to the lower basic railroad fare and the elimination of the surcharge, the Pullman Company has substantially reduced its rate on compartments and drawing rooms when occupied by one person and the railroads have substantially reduced the number of railroad fares required with the purchase of Pullman compartments and drawing rooms when occupied by one person. Examples of New York-Chicago rates show that the present total charge for one person having a lower berth is $41.70; on the new basis it will be $33.25, a reduction of 20¼ per cent. For one person in a drawing room the present total charge is $96.90; on the new basis it will be $49.10, a reduction of 49¼ per cent. Attention is also called to the fact that most Pullman cars are now air-conditioned and to Pullman's safety record—in 1935 "Pullman cars carried more than fifteen million passengers over seven billion passenger miles without one single passenger or employee fatality, a safety record unmatched by any other form of transportation over the years."

With the advent of the reduced basic fares, the railroads will discontinue various types of week-end, 30-day and other special round-trip rates, and some multiple-trip tickets, which have been in effect in recent years and which in most instances are on a higher basis than the new two-cent coach rate. It is expected, however, that operation of Sunday excursions on lower bases will be continued.

Bus Lines to Cut Fares

Bus lines operating in Eastern territory are also planning to reduce their fares on June 1, thereby keeping their rates on a basis lower than that of the railroads. The differential of the bus rates under standard rail rates will, however, be greatly diminished. Many bus tariffs publishing reductions were filed with the Interstate Commerce Commission around May 1. The new bus rates will be generally on a 1.5-cent per mile basis for distances over 60 miles, and for shorter runs they range from 1.5 cents to 1.75 cents per mile. Round-trip tickets will be 180 per cent of the one-way fare.

The Dixie Bus Center, New York, this week made public a schedule giving some comparisons of old and new bus fares out of that city. The New York-Chicago one-way rate, for example, will be cut from $14 to $12.95; New York-Buffalo, from $9 to $6.15; New York-Philadelphia, from $2 to $1.50; New York-Washington, from $4.50 to $3.75; New York-Boston, from $3.50 to $3.

Pettengill Bill Would Boost Traffic

Pelley shows that fourth section repeal would distribute prosperity throughout country, instead of concentrating on coasts

WASHINGTON, D. C.

J. J. PELLEY, president of the Association of American Railroads, on May 19 replied to the letter addressed to him on May 14 by Senator Wheeler, of Montana, chairman of the Senate committee on interstate commerce, requesting that the association compile and submit for inclusion in the record of hearings on the Pettengill long-and-short-haul bill as complete a study as possible of the traffic which the railroads expect to regain if the bill becomes a law. The Senator had even requested that the figures be broken down to show the sources and commodity classification of the traffic. Mr. Pelley in reply said it was not possible to give such figures but he gave many illustrations to show that if the railroads are given an opportunity, by repeal of the long-and-short-haul clause, to establish rates that will enable them to compete with other forms of transportation, the effect will be to restore to the railroads a very large volume of freight. He said in part:

Mr. Pelley's Statement

Not only have I given careful consideration to your letter, but I have called for assistance upon experienced traffic officers connected with the association, as well as many of the same class from different parts of the country and representing railroads vitally interested in the question at issue. Many of these traffic men have given a lifetime to the consideration of so-called fourth section questions.

As a result of our consideration and as our representatives have stated to the committee, it is not possible for us to provide you with the precise information which you request. We have insisted and we do now insist that if the long-and-short-haul clause is repealed and the railroads given an opportunity to establish rates which will enable them to compete with other forms of transportation, the effect will be to restore to the railroads a very large volume of freight. Not only will this result, but the railroads will be enabled to retain traffic which they would otherwise lose because of their inability to make prompt adjustments in their rates as occasion demands. This is the unanimous opinion of railroad officers throughout the country, not only those in traffic departments but in other departments as well. These officers have seen a huge volume of traffic diverted from the railroads and from interior shippers dependent upon railroads, because of the operation of the present long-and-short-haul clause.

Statistics Not Available

In the first place, permit me to say that only the most general figures are available covering the competitive traffic to which you refer. In some cases, there are no figures at all. Even where the figures are available, they are not so broken down as to show the actual points of origin and destination of the traffic.

Doubtless the most complete statistics available are in connection with the intercoastal traffic, as developed from the records of the Panama canal. But even these do not disclose the real origins and destinations of the traffic. Frequently these origins and destinations are inland points, several hundred miles distant from the ports. Under modern conditions, much of this inland movement is by motor truck and we are advised that the trucks transport even heavy traffic to and from the ports. In the case of traffic of this kind, there is certainly for the railroads no "feeder" haul.

To illustrate the point further, I call attention to the testimony and tables presented before the House committee by Mr. Hastings, general freight agent of the Santa Fe. His testimony well demonstrates the practical difficulties met in trying to develop precise information such as you desire. Yet it is well known, speaking generally, just what the areas are, port and inland, in which the traffic handled by the intercoastal water carriers originates or terminates. With the exception of eastbound oil, all of this traffic is competitive with the railroads operating across the country. We know that prior to 1920 the railways, being in a position so to do, freely participated in the transportation of this traffic.

Please note that according to Mr. Hastings' statement, the total westbound and eastbound tonnage (excluding oil and tank steamers) between the Atlantic and Pacific coasts by way of the Panama canal increased from 1,961,874 tons in 1921 to a peak of 8,230,679 tons in 1929. There has been some decline since, so that in 1934 the amount was 5,830,705 tons. No doubt this decrease is attributable to the depression, but it will be noted that there has not been as great a falling off in the case of the canal traffic as in the case of rail traffic. In fact, the movement through the Panama canal of certain classes of goods, particularly canned goods, has actually increased in this period. No one can say that if the railroads were permitted to compete for this traffic they would not add substantially to their revenues; at the same time, no one can say with precision just how much they would recover.

To illustrate further the difficulty of making such an estimate as you suggest, we know that tonnage formerly produced in the Middle West and marketed in large volume at points on or adjacent to the Atlantic, Gulf and Pacific coasts, under competitive railway rates established originally to meet the competition of water-borne commodities, including those originating in foreign countries, has been diverted from the railways because of the denial of long and short haul relief.

Cites Typical Cases

Our principal witness, Mr. Kerr, in his testimony cited two typical cases: one involving iron and steel to Texas ports and the other molasses and syrup from Louisiana points to Pittsburgh. These were both comparatively simple cases and it was possible there to estimate, by the aid of information furnished by interested shippers, what revenue would have been regained or retained by the railroads had the relief been granted.

In the molasses case, the railroads were first assured that with a rate of 50 cents they could retain the traffic as against the Federal Barge Line. They applied for a special rate, but were required to wait all the weary time which, under the commission's rules of procedure, seems to be necessary. While waiting for the commission to act, the shipper moved 5,000 barrels by way of the barge line at a 40-cent rate and thereafter the rail lines could not regain the traffic on a 50-cent rate. In other words, the commission's administration of the present long-and-short-haul law caused this traffic to be completely lost to the railroads, whereas if the rates could have been put in on the 50-cent basis promptly, the traffic would have been retained. This is merely illustrative and shows what may happen and does happen with other traffic and illustrates the difficulty which railroads have in predicting just what will happen in the effort to hold or regain business.

I am advised that in the course of the hearings you made reference several times to the fact that the United States Steel Corporation and the Bethlehem Steel Corporation now transport in their own vessels to the Pacific Coast large amounts of tonnages which the railroads could not hope to regain. It has been shown, however, that where the railroads were not straitjacketed by the long-and-short-haul clause, they did transport a large amount of iron and steel products across the country. Obviously, under the present situation, these steel companies have no incentive to use all-rail transportation, when all-water transportation is available. The railroads are prohibited from making competitive rates and this gives a monopoly to the water lines. However, if the railroads were permitted to compete, we have every reason to

believe that a substantial all-rail movement would develop, but it is impossible to predict with any degree of certainty the exact amount of tonnage which would thereby be obtained.

The relief the railroads ask for would undoubtedly permit the interior independent steel companies to extend and enlarge their markets. We cannot say, however, just how much additional business they would secure. We do know that practically all of what they gain would go to the railroads.

It cannot be said that the producers of iron and steel articles would prefer the use of the water lines, since the railroads are among the heaviest purchasers of steel in the country and it is natural to suppose that the steel companies would use the rails, if the rails were permitted to compete.

As further illustrating the difficulty of giving you the precise information your letter calls for, I call your attention to the fact that there is quite a heavy movement of such commodities as iron and steel, paper, corn, cement, coke and the like from foreign countries, which are consumed at the ports or points nearby. American producers should be placed in a position to meet the competition of these foreign products. The railroads are ready and willing to do their part. Conditions are constantly changing and consequently the railroads have no way of estimating what traffic of this character they might be able to recover. Much depends upon our own producers and while our combined efforts might be successful at one time, they may prove to be failures at others. All depends upon promptness, or, in other words, the opportunity to secure added traffic.

The Sugar Situation

As another illustration of the difficulty in replying to your letter specifically, take the sugar situation. For five and one-half years, applications covering sugar have been pending before the commission. The commission's decisions (211 I.C.C. 239) show that as late as 1929 the transcontinental rail lines transported about 75 per cent of the total sugar from the Pacific coast to the Eastern markets and the water carriers the remainder. By 1933, the rail proportion had dropped to 19 per cent. The rail carriers proposed certain rates which they felt would have brought to them a better and fairer share of the sugar traffic. The commission, with all of the evidence carriers and shippers could gather, first decided that somewhat higher rail rates would suffice to bring about more of an equality of opportunity. The commission's judgment proved erroneous, in part by reason of changed conditions, so that the rail carriers did not improve their position with respect to tonnage by following the commission's judgment but actually lost more of it. After five and one-half years, the commission authorized the lower rates, which have been in effect only a few weeks. It is impossible to say just how much traffic will be regained after this long period of hesitation and delay.

In the same general proceeding, the carriers sought approval of certain reduced rates on sugar from New Orleans to St. Louis, Louisville, Chicago, Cincinnati, etc., which were considered necessary to meet unregulated all-water competition or a combination of water and truck competition. The commission, however, decided that the rates proposed were too low by 4 cents. The rates allowed by the commission did not help the railroads, since no appreciable amount of traffic was thereby regained. This again illustrates how impossible it is to say with precision just what the effect upon the revenues of the rail carriers would be, if they were allowed to use their judgment in matters of this sort.

I realize the fact that you state in your letter that I should assume that the rates of the water lines and the truck lines should remain unchanged. But even under those conditions, it would require a high degree of prophetic vision to say just what tonnage a certain rail rate would produce for the rail lines if the rate is made no lower than is absolutely necessary to produce equality of opportunity. I would assume that the rail industry would not be justified in making a lower rate nor would such lower rates be permitted by the Interstate Commerce Commission, which, if the Pettengill bill passes, will retain all of its power to pass upon the reasonableness of rates, to condemn such as are discriminatory, to prescribe maximum and minimum rates and suspend such as do not conform to the commission's standards of justice.

That we are not able to give you any accurate estimate of the amount of traffic to be recovered and from whom, does not, I respectfully submit, militate against the strength of our contention that we should be allowed to compete. Undoubtedly, the railroads have lost a tremendous volume of traffic to other forms of transportation, due to their intensive development in recent years. At the present time, the railroads have virtually no traffic which is not competitive.

I should like to refer a moment to a statement which has been made several times in the hearing, in which there is a comparison of the tons carried by the intercoastal lines with the total tons carried by seven certain transcontinental railroads. The comparison should be not with tons but with ton-miles, that is to say, the number of tons carried multiplied by the miles of service. This will give a better picture of the situation, in view of the fact that the water haul is the equivalent of about 3,000 rail miles.

In this connection, I should like to call attention to a table which is found at page 100 of the record of hearings before the House committee. There it was shown that for the years 1929 and 1930, the transcontinental rail lines, after a special study of their own billing records covering about 100 important commodities, developed that they handled in round figures 935,000 tons in 1929 and 720,000 tons in 1930 to the Pacific Coast terminals and interior points in Pacific Coast and Intermountain territory. This should be contrasted with 2,592,000 tons carried in 1929 and 2,021,000 tons in 1930 of the same commodities transported by the intercoastal water lines. It is reasonably certain that the traffic originated or terminated in the same general territory as that covered by the rail statistics. It will be seen, therefore, that the rail movement represented only between 35 per cent and 36 per cent of the movement through the canal. It is practically certain that the percentage is less at this time.

It must, therefore, be conceded that the westbound traffic in these commodities transported by the seven transcontinental railways to the Pacific coast terminals proper from large sections of Eastern and Southern producing territories was nothing like what it reasonably might have been expected to be if the railroads had been permitted to quote competitive rates. It will be seen also that a very considerable part of the traffic which the rail lines did carry to the Pacific coast terminals originated in states west of Pennsylvania and New York and that very little came from the Atlantic seaboard states.

While this is very clear, I think, it is obvious that no one can say with any great confidence just how much traffic from this Eastern and Southern producing territory to the Pacific coast terminals and adjacent points could be recovered by the rail lines, if they were permitted to compete. Nothing short of actual experience, under a fairly arranged, reasonable relationship as between rail and water carriers can answer the question. If the rates are properly adjusted so as to give neither form of transportation any particular advantage over the other, then competition will be on equal terms and the volume of traffic will depend upon the efforts of the lines thus engaged in fair competition. We can say with certainty that no carrier would enjoy a monopoly under those conditions.

The railroads thoroughly understand that under Section 3 of the interstate commerce act, which would be left undisturbed, they could not maintain a competitive rate to the water point lower than is necessary fairly to meet the competition of the water lines. And in order that the intermediate points may be treated without discrimination, those points would have a right to demand that if the water rates are increased, the rail rates should be correspondingly increased, so that there would be in effect to the water points rates only on such a basis as to permit competition.

We are sure, however, in spite of our inability to furnish precise figures, that there will result a very substantial increase in the rail tonnage between the Eastern, Central, Midwestern and Southern states on the one hand and the Pacific coast on the other. This will inevitably occur, since if the Pettengill bill is passed, the present monopoly enjoyed by the water lines will no longer exist. As so often stated, we know the rail lines had a substantial volume of this traffic prior to 1930; that they lost it due to the removal of fourth section relief and that it is the unanimous view of the traffic officers of all the railroads in the United States that they would gain back a substantial amount if they are allowed to compete.

The hearings before the House committee and these hearings demonstrate that the water lines, particularly the intercoastal

(*Continued on page 884*)

Tie Producers Meet at Cincinnati

Eighteenth annual convention considers problems of production, taxation and future timber supply

APPROXIMATELY 75 tie producers and railway officers interested in the purchase and use of crossties gathered at Cincinnati, Ohio, on May 20-21, for the eighteenth annual convention of the Railway Tie Association. Of special interest to railway officers were papers on Tie Renewal Trends, by Dr. Julius H. Parmelee, director, and Graham E. Getty, assistant statistician, Bureau of Railway Economics, Washington, D. C.; and on the Place of Statistics in the Tie Industry, by Elmer T. Howson, vice-president and western editor of the *Railway Age*. Other papers of more direct interest to tie producers included those on the Timber Situation in the Deep South, by Captain I. F. Eldredge, regional survey director, Southern Forest Experiment Station, United States Forestry Service, New Orleans, La.; on Taxes in the Tie Industry, by George H. Curran, assistant treasurer, The Wood Preserving Corporation, Pittsburgh, Pa.; on Trends in the Application of Mechanical Power in Tie Production, by C. J. Telford of the Forest Products Laboratory, Madison, Wis.; and on the Value of Industrial Councils, by D. D. Thomson, president, Kentucky Rock Asphalt Company, Louisville, Ky. H. R. Condon (vice-president, The Wood Preserving Corporation, Philadelphia, Pa.) president of the association, presided, assisted by I. C. Rowe, secretary-treasurer.

The following were selected as officers for the ensuing year: President, T. J. Turley, Jr., vice-president, Bond Brothers, Louisville, Ky.; first vice-president, E. A. Morse, vice-president, Potosi Tie & Lumber Company, St. Louis, Mo.; second vice-president, R. H. White, Jr., vice-president, Southern Wood Preserving Company, Atlanta, Ga.; members of executive committee, F. P. Dabolt, president, Tennessee Tie Company, Memphis, Tenn.; R. Van Metre, president, Wyoming Tie and Timber Company, Chicago; Meyer Levy, vice-president, T. J. Moss Tie Company, St. Louis, Mo.; E. J. Irving, vice-president, National Lumber and Creosoting Company, Texarkana, Tex.; H. R. Condon, vice-president, the Wood Preserving Corporation, Philadelphia, Pa.

The convention was welcomed to Cincinnati by Col. H. M. Waite, director of the National Employment Research Bureau and former chief engineer in charge of the construction of the Cincinnati Terminal. Colonel Waite reviewed his early experience in railway maintenance and in the use of ties, which experience antedated timber treatment on any large scale. He traced the improvement in the railway crosstie, in its manufacture, its care and its treatment to today's present high standards.

In reviewing the activities of the association, President H. R. Condon suggested as activities worthy of consideration: (1) The expansion of statistical data relating to the production, sales and inventories of ties from both producers and users; (2) the establishment of a standing committee on Standardization, Simplification and Specifications to make available to railroad and other specification writers the experienced viewpoint and recommendations of tie producers with respect to tie standardization and specifications; (3) the development within the industry of rules of fair trade practice; (4) the development of a practical system of uniform cost accounting; (5) the promotion of safety campaigns and safety measures within the tie producing industry; (6) the study and report on taxation matters; (7) the provision of means for informing legislators and government agencies on the viewpoint of the tie industry on problems affecting that industry.

On the Denver & Rio Grande Western West of Minturn, Colo.

In his address, Captain Eldredge described the results of surveys made to determine the proportion of the areas now covered by timber in the six states in the southeast, showing that about 50 per cent of this area is so covered today as compared to only about 20 per cent devoted to agriculture. His figures of standing timber were considerably larger than customarily understood, giving promise of adequate supplies of timber for crossties for many years, if not indefinitely.

Mr. Curran described the many and diversified forms of taxation, indirect as well as direct, to which the tie producing industry is subject today, including those common to all industry as well as those severance and

other taxes peculiar to the tie producing industry. His address portrayed the increasingly severe inroads which taxes are making on the earnings of tie producing companies as well as on their customers, the railways.

Mr. Thomson, who is a member of the industrial council movement headed by George Berry at Washington, described the objectives of that organization and advocated greater consideration of the viewpoint of employees in industrial management as a means of promoting harmony and increasing efficiency.

Abstracts of the papers on Tie Renewal Trends and the Place of Statistics in the Tie Industry follow:

Tie Renewal Trends

A constructive feature of the program was the presentation of a study of tie renewal trends prepared by Julius H. Parmelee, director, and Graham E. Getty, assistant statistician, Bureau of Railway Economics, and presented by Mr. Getty. An abstract of this paper follows:

At the end of 1935, there were approximately 1,038,000,000 cross ties supporting 348,300 miles of tracks owned and operated by Class I steam railways in the United States. That number represented a decrease of 28,000,000 ties from the aggregate in track at the end of 1930, the peak year. The decline was due principally to the abandonment of rail trackage during the period. In addition to track laid with cross ties, there were 24,250 miles of tracks laid with switch and bridge ties. The number of such ties approximated upwards of 100,000,000.

The number of cross ties laid in replacement and the number laid in new lines and extensions during the last 15 years just about equal the number now in track, plus ties removed from abandoned lines. That does not mean that every tie in track at the beginning of 1921 has since been replaced, for some ties laid in 1921 and subsequent years have since been replaced because of expired service life, defects, or damaged condition, leaving an equivalent number now in track that were laid prior to 1921. For the moment, however, we merely indicate an average service life of 15 years per tie, based on the period 1921 to 1935 as a whole.

Because of increasing average service life the number of tie replacements decreased somewhat each year from 1922 to 1929. Because of economic conditions the rate of decline since 1929 has been much more rapid. Thus, of the ties laid in replacement during the last 15 years, 61 per cent were laid in the first 7½ years and 39 per cent in the second 7½ years. The weighted average of expired service life of ties now in track is slightly more than 9 years per tie. The renewal rate at the beginning of the period was 8.5 per cent annually of the aggregate number in track, while at the end of the period it was 4.3 per cent.

In 1934, for the first time in many years, cross tie renewals exceeded the number laid in the preceding year. Again, in 1935, renewals increased, representing an increase of 19.4 per cent over the low point of 1933, but a decline of 40.6 per cent from the level of 1929.

In order to indicate the trend of the last four years, we quote the following statistics. For comparative purposes, we give also figures for the year 1929.

Year	Number of ties laid in replacement	Ratio to total ties in track
1929	74,679,375	7.0%
1932	39,190,473	3.7%
1933	37,295,716	3.5%
1934	43,306,205	4.1%
1935	44,351,900	4.3%

It will be recalled that the ratio of tie renewals for a number of years prior to 1929 was distinctly downward, due to increasing use of treated ties, with a resulting increase in average service life per tie. Even if economic conditions had remained unchanged from 1929 to date, the carriers would not have been making renewals today at the rate of 7.0 per cent annually. Taking that fact into consideration, as well as the fact that the decline in traffic reduced the amount of wear and tear on ties, and further that abandonments have eliminated some 28,000,000 ties from tracks, it is apparent that from the maintenance standpoint tie renewals since 1929 have not been so far below pre-depression standards as the bare figures seem to indicate. That there has been some deferred maintenance is undoubtedly true, but it is equally true that deferred work may not have gone beyond the reserve that had been built up by the end of 1929. The high standard of train operating safety throughout the period of economic depression gives that statement considerable support.

As traffic returns to the rails, however, we may expect an increase in tie renewals. As earnings permit, a maintenance reserve comparable to that of 1929 will undoubtedly be built up, but for the present we may only expect a maintenance program consistent with traffic and safety demands. That demand today is greater than at any time since 1931. During the first quarter of this year the Class I carriers increased their maintenance of way expenses by nearly 20 per cent over the same quarter of 1935, and by nearly 50 per cent over the corresponding quarter of 1933. A part of the increase was due to higher wages, a part to increases in material costs, and the remainder to an expanded maintenance program. We think we can expect the renewal of close to 50,000,000 cross ties this year, an increase of about 12.5 per cent over 1935 and an increase of 34 per cent over 1933. About four-fifths of the ties laid this year will be treated ties.

Future Consumption

What about future years? As each year passes we consume over one billion tie years of service life. At the renewal rate of the past four years, ties would have to average 25 years of service life in order to balance the annual service consumption. That average is undoubtedly high. At an average of 20 years of service life per tie, the carriers would annually require about 50,000,000 ties. Again, we believe, that average life may be high because about one-fourth of the ties laid during the past four years were untreated. However, at present traffic levels, 50,000,000 tie renewals annually seems to be the indicated trend. If traffic increases and earnings improve, it may be necessary to replace 60,000,000 ties annually, in order to build up a maintenance reserve comparable in any degree to 1929.

Statistics in the Tie Industry

In a discussion of the place of statistics in the tie industry, Elmer T. Howson, vice-president and western editor of the *Railway Age,* directed attention to the value of information of this character to producer and consumer alike. An abstract of his paper follows:

The tie producing industry is an industry of large scale operations; it is subject to wide fluctuations in demand and to intensive competition, while demands must be anticipated a year in advance. The successful executive of a tie producing company needs every available aid, therefore, in order that he may arrive at his decisions with the greatest possible degree of accuracy.

It is because of this fact that statistics must necessarily assume a large place in his picture.

What statistics should the tie industry have?

(1) The tie industry should have, first of all, knowledge regarding the outlook in the industry from which it derives its business—the railways. Is the outlook for increased earnings favorable, with its corollary of increased purchases? Or is retrenchment in purchases in the offing? The task of prophecy is hazardous at any time. It is particularly so in these days. Yet, to a degree, information is available regarding the present and future prospects of the railways that is helpful to those dependent upon them for business. Most informative is the forecast of carloadings which the Regional Advisory Boards issue quarterly in advance. Supplementing these forecasts, the weekly carloading figures provide an index of railway earnings currently for the country as a whole, while monthly figures of net railway operating income show the extent to which gross earnings, as reflected by carloadings, are conserved for needed purchases. Similarly, net operating income figures for the individual railroads in which you are most directly concerned, give you a picture of what your companies may expect individually.

(2) With some knowledge of the probable demands of your customers, you need information regarding conditions within your own industry. Here, of first importance is an index of the stock of ties in the hands of producers, available for the filling of orders. Knowing the magnitude of this "cushion" against a sudden rise in demand, an individual producer can determine with a greater degree of certainty what his own production policy should be. To a degree, the association has been compiling such figures for more than two years from companies believed to produce from 75 to 80 per cent of the ties currently carried in stock. But these figures are lacking in accuracy to the extent that they fall short of complete coverage.

Furthermore, since many of the ties that are held awaiting use are in the hands of the railroads, it would be still more indicative of the true status of the tie supply if figures could likewise be made available regarding railway stocks, for after all, the figures that are most informative to producer and buyer alike are the combined total of all ties available in both railway and producers' yards.

(3) Second in importance only to statistics of ties on hand, to the producer, is information regarding the current ratio of production, for this figure shows the rate at which stocks are being replenished and future requirements anticipated. This figure is important to producer and user alike, especially because of the long interval which necessarily elapses between the time when a tie is produced and the time when it is ready for use.

(4) Still another form of data that should be useful to a producer is the figure showing shipments made currently from stocks, for this figure reflects the current demands on the industry from the railways.

Still other statistics might be suggested that would be helpful to those executives of tie producing companies who are endeavoring to plan their operations in the way that will insure an adequate supply of ties available to meet demands as they may arise, but without a surplus. When a railway purchasing officer is required to guess as to the stocks of ties that are available when he is formulating his purchasing policy and determining whether it is safe to let his stocks run down or whether he should build them up, or when a producer is confronted with the same situation in determining whether he should go into production heavily or whether he should reduce his inventories, an attitude of uncertainty and instability is introduced into that industry that cannot do other than result in loss. Regardless of whether he is a producer or a buyer of cross-ties, information that will give him the highest possible degree of security in the decisions which he is called upon to make result ultimately to his benefit. Wide fluctuations are of no benefit to anyone in the long run; a man may win today, but he will lose tomorrow. That industry which has the greatest stability in prices and in which there is the least gamble is the industry which suffers the least loss.

The tie producing industry and the railways should be able to submit their information to some disinterested trustworthy agency for compilation of totals which can be disseminated to the benefit of all concerned. Other industries have done this in which competition is just as keen as it is in the tie industry. Such information will go a long way towards taking the peaks and sags out of tie production and purchasing.

In my discussion so far I have not referred to statistics showing costs of production. This comprises a large field in itself. Its basic importance, if maximum economy of operation is to be secured, is self-evident. No one of us does his best without a yard stick for comparison. Leaks due to inefficient practices are not brought into the spot light until one starts to break down costs that are out of line with those of the rest of the industry. No one agency can contribute more to the elimination of wasteful practices and to the reduction in costs of operation than well prepared, accurate cost data. Many trade associations have made their greatest contribution to their members through this activity.

Business today demands maximum efficiency. Maximum efficiency is secured through co-operative action to detect and eliminate waste. The elimination of waste requires knowledge. Statistics properly prepared are a source of basic knowledge. They are the indicator of business efficiency today.

J-M Flexible Board

A NEW type of flexible wall-board, known as J-M Asbestos Flexboard, has been developed and is now being marketed by Johns-Manville, New York. While this board is made of asbestos and cement, it is said that it can be sawed and nailed like wood. The board is fireproof and is said to be so flexible that it can be made to conform to surfaces having a considerable curve.

Flexboard is made in two types, one designed to provide decorative wall finishes and the other to serve a wide range of utilitarian purposes. For decorative use the board is furnished in plain and scored sheets, ⅛-in. thick, having a factory-applied wax finish. The decorative board is available in green, buff, rose and slate in either a tile or plain design. Because it forms an integral part of the board, the coloring, it is said, cannot become impaired by chipping, cracking or by contact with steam or hot water. This board is recommended for use wherever a decorative wall finish is desired, such as in lavatories, laundries, corridors, lobbies, restaurants, etc.

The utilitarian or standard Flexboard is the same as the decorative material except that it is furnished only in unpolished buff-colored sheets, scored or unscored as desired. This board is offered for use in the construction of partitions, door casings, base boards, table tops, fireproof storage rooms, etc., and for lining truck bodies, concrete forms and elevator shafts.

What's New in Railroading?

Presidents of seven lines explain innovations to 500 members and guests of the Traffic Club of Chicago

PRESIDENTS and trustees of seven railroads gave five-minute talks on "What Is New in Railroading" before more than 500 members and guests of the Chicago Traffic Club on May 7. Such developments as streamlined trains, searchlight signals, tracks, rail and truck service, automatic train control and improved passenger service were discussed.

New Train Equipment

S. T. Bledsoe, president of the Atchison, Topeka & Santa Fe, cited the 39¾ hr. service which this road inaugurated between Chicago and Los Angeles, Cal., on May 12, the high pressure steam locomotive and the signal which throws beams 4,500 ft. "Commencing Tuesday, May 12, 1936," he said, "the Santa Fe will place in regular operation between Chicago and Los Angeles, The Super Chief, on a schedule of 39¾ hr. in each direction. This will cut 14 hours from the fastest existing westbound time and 15¼ hours from the present eastbound time between these points.

"The Santa Fe now has under construction a new light-weight train of stainless steel. The cars will be individual in type and not articulated. Each car will have the same strength as heavier cars, the light weight being attained by the adoption of the latest scientific developments in metallurgy. Each car will have its own complete air-conditioning plant and lighting facilities. This new train will be installed about November 1. In operation it will have the appearance of a silver arrow.

"The Santa Fe has practically completed the air conditioning of all passenger cars used in main line service —each air conditioned car being provided with an ample supply of fresh air. We have recently remodeled a large number of chair cars by the installation of the latest type revolving seats, rubber cushions and the improving of various other features of the interior to afford maximum comfort and attractiveness in design.

"The Santa Fe is continuing its study of an experimental locomotive of 300 lb. steam pressure for heavy freight service. Our experts are constantly working with the manufacturers of both Diesel and steam locomotives on designs for improved motive power.

"Marked development has been made in signals. Originally, railroad signals were of the semaphore type, in which the daylight indication was given by the arm, and at night by color light. Recent developments have given the railroads the so-called searchlight type which throws a beam of light more than 4,000 ft."

The Controlled Cooling of Rails

Ralph Budd, president of the Chicago, Burlington & Quincy, pointed to the controlled cooling of rails as one of the greatest developments in railroading. "I get unadulterated pleasure out of new improvements in railroad track. Next to that I enjoy the perfection of the locomotive, and I confess to a considerable interest in new types of cars. The newest thing in railroading, or at least the new thing that interests me most just at present is a new method that is being applied to the manufacture of track rails.

"Think of a steel rail as a complex structure with many longitudinal and many transverse fibers, each enmeshed with the others. When molten metal is rolled into the section of a rail these fibers are formed. They have certain relationships to each other; they do not all possess identically the same chemical content, nor are they all at the same temperature. Internal stresses are set up as the metal cools. The outward evidence of this is the fact that upon cooling, all steel rails are more or less distorted and have to be straightened. This is where the crudity of rail manufacture comes in. The stresses that cause them to be bent and crooked are ignored; they are forcibly put into perfect line by hydraulic presses and gags. No one knows what new strains are created by these punishing thrusts and blows, or what damage may be done to the internal structure. The rail manufacturers have now devised a method of releasing the internal stresses by reheating the rails and then slowly cooling them again. Like so many other effective processes, it is essentially simple and easy to understand."

A New Attitude

L. A. Downs, president of the Illinois Central, said that while nothing in railroad development remains new very long, there is one thing that is new—the readiness of railroad men to accept all these improvements that are developing. "It does not follow that what's new is good because it's new. I could mention some new things, including some that are in the making that would be bad for the railroads and for the people they work to serve. There is a great temptation to particularize at this point, but time will not permit.

"It might also be said that a reputation for newness is not wholly desirable in railroading. Railroads are public servants. There is no closer relationship in the whole field of business enterprise than that of shipper and carrier. It is a relationship that improves with age. Changes come and require new things in railroading, but old things have their place too.

"Further it might be said that what's new in railroading today is old tomorrow. A ready example of this is the air conditioning of passenger equipment. The experiments go back several years, but air conditioning has come into general use almost wholly in the last two years. Yet it is no longer a novelty. The public has accepted it and grown accustomed to it, and even railway men are fast forgetting that we did not always have it. Of course it is here to stay.

"To me, the most significant thing that's new in our business is not any of the things that are most talked about. It's not the streamline trains, or air conditioning, or pickup and delivery, or faster schedules, or co-ordination of terminals, or any of the other things that get into the headlines so frequently nowadays. These are spectacular evidences of desirable progress in railroading, but the significant thing, it seems to me, is the attitude of railway men that has made such progress possible. These and many other improvements show that railway men all along the line are receptive to new ideas, are willing to learn, are ready to experiment."

James E. Gorman, trustee of the Chicago, Rock Island & Pacific, pointed to the fact that the Rock

Island was the pioneer in the co-ordination of rail and truck service. On June 12, 1934, this road began handling motor truck trailers on specially equipped flat cars between Chicago and East Moline, Ill., for the Keeshin Motor Express Company, and on August 1, 1934, extended the service to Peoria, Ill. As a result, efforts are now being made to establish the co-ordinated service between Chicago and the Twin Cities and between Chicago and New York.

Rail-Truck Service

P. H. Joyce, trustee of the Chicago Great Western, also called attention to the business which railroads may get by inaugurating co-ordinated rail and truck service. "While the railroads have made great strides in improving their plant, equipment and service," he said, "they do not seem to have held their own in meeting the new conditions growing out of the development of the automotive vehicle and the hard-surfaced all-weather highway. This is a direct challenge to the American railroads. They are not inferior to any other carrying agency for the longer distances. They can haul cheaper and better than any other transportation machine that has yet been devised, but there is something lacking in their ability to merchandise the service that they are equipped and organized to furnish. Perhaps the trouble is that we started out to suppress the truck instead of recognizing its inherent usefulness and applying it to the mutual benefit and advantage of the railroad and the public.

"The truck and the rail are not in the same class. Each has its inherent advantages and usefulness and ought to be employed wherever it is superior. What we need is not co-ordination, but integration, by which the different forms of transportation will be brought together and used sensibly and advantageously in a complete transportation machine.

"Instead of trying to suppress the truck in the hope that the traffic will then be forced back upon the railroad, I think we will make much greater progress by employing the truck in the field in which it is most useful and operates most efficiently and economically and by also employing the railroad in its own field, which is the production of mass transportation for substantial distances.

"The Great Western has made a few moves in this direction. We hope to have integrated service in operation very soon, and I feel that a practical demonstration of what can be done in this direction will remove the fears that have been expressed by some of the railroads and demonstrate to the shippers and the public that the railroads of today are just as capable of advancing and meeting the changing conditions of the country as they ever were and will continue to be the most useful agency of transportation that has been produced anywhere in the world."

Improved Terminal Operation

F. W. Sargent, president of the Chicago & North Western, commented upon improved facilities and fast trains and cited automatic train control as an outstanding development. "The scope of new developments on the Chicago & North Western during the past five to ten years embraces every phase of railroad activity—new passenger and freight equipment, safety, co-ordination of bus and truck activity, air-conditioning, the institution of high-speed freight, passenger and streamlined service, and the introduction of ideas decidedly new in both the freight and passenger field.

"We have carried out, particularly in Chicago, a plan of improving freight and passenger terminals and facilities in a program involving the expenditure of many millions of dollars. One of the major projects in this campaign was the construction of the Proviso freight yards. Another development in our program included the building of the Wells Street freight station underneath the Merchandise Mart at a cost in excess of $2,000,000. We constructed the North Western Express Terminal near our passenger station at a cost of $4,000,000 to speed up the handling of express shipments in the downtown district.

"Chicago is the potato capital of the world, and the North Western, with the construction of the Wood Street potato and vegetable yard, provided one of the largest and most modern yards for the handling of potatoes and vegetables. This yard was built at a cost of $2,000,000 and provides team track facilities for 600 freight cars, with auxiliary tracks for 1,850 additional cars.

"Extensive track improvements, including the building of a third track between Jefferson Park and Barrington; the institution of automatic train control—an invisible guardian of safety—between Chicago and Omaha; the purchase of 35 Class 'H' locomotives, the largest dual service locomotives in the world; a modern 'hotel' for cattle and sheep, erected at West Chicago; and smoke abatement steps, such as the building of a steam plant at Chicago avenue and the introduction of oil-electric locomotives in the downtown switching districts, are some of the many projects completed under this program.

"Safety, from both the standpoint of employees and passengers, has been a major undertaking on the part of railroads, and their achievements along this line marks a commendable advance in conducting rail transportation. A few years ago the late Dr. Elmer A. Sperry invented the Sperry Detector Car, a device that detects, through what may properly be called an electrical eye, the hidden flaws in rails. This has been an effective factor in our consistent program for the promotion of safety.

"Air-conditioning, which was inaugurated five or six years ago, has now advanced to a point where many roads have all of their major passenger trains fully air-conditioned. We on the North Western will have more than 60 trains completely air-conditioned this summer, covering substantially all of our through scheduled trains over the system.

Expedited Freight and Passenger Service

"A gradual process of speeding up freight and passenger trains has been carried on by the western and eastern roads for some years. It was not until January 2, 1935, however, that a drastic step in reducing running time was made. At that time the North Western placed in service 'The 400,' operating on a 7 hr. schedule between Chicago and St. Paul-Minneapolis, a reduction of 2 hr. and 50 min. from the fastest train time between those points. Since then the schedule has been reduced to 6½ hr., which means an average speed of approximately 63 miles an hour for the 409 mile trip.

"Another development, inaugurated by the Union Pacific in 1933 and followed very promptly by other railroads, is the light-weight, streamlined, Diesel-powered train. At this time, after three years of experimentation, two such trains are now operating on this road and four more will be in operation by the middle of June. The third, an 11 car unit of 2,100 horsepower, will start service between Los Angeles and Chicago on May 15 on its first eastbound trip, making the run, as does the 'City of Portland' in 39¾ hr. 'The City of San Francisco,' another 11 car unit powered by two 1,200

horsepower motors, will go into service before the end of May between Chicago and the Golden Gate. This train will operate on a day-saving schedule of 39¾ hr.

"Two additional streamliners—12 cars in length and incorporating beautiful new interior design, will start daily service between Chicago and Denver, Colo., over the North Western and Union Pacific early in June.

"There is one other train, new in principle, that I want to mention briefly. It is 'The Challenger.' It is composed entirely of coach, tourist car and dining car equipment and features a coach set aside exclusively for the use of women and children.

"While the Chicago & North Western has been concentrating on increasing the efficiency of its railroad service, it has not been unmindful of the fact that buses and trucks, properly co-ordinated, have a place in the transportation picture. One truck line, the Wilson Transportation Company in South Dakota, is controlled by the Omaha railroad, a part of the North Western System. We also have instituted, together with other railroads in the country, free pickup and delivery service, offering shippers and receivers complete door to door service on less than carload shipments. This arrangement, so far as the North Western is concerned, affects all open agency stations numbering almost one thousand.

"The Interstate Transit Lines, one of the largest bus systems in the country, is owned jointly by the North Western and the Union Pacific and serves almost the entire western part of the United States. We coordinate this service with that of our passenger trains by proper arrangement of schedules and by allowing agents to sell combination tickets good on rail to the point of taking the bus and good on the bus from there on. Tickets good on the North Western between almost all points are honored on Interstate Transit Lines' buses."

New Trains Develop Traffic

H. A. Scandrett, trustee of the Chicago, Milwaukee, St. Paul & Pacific, described the effectiveness of new trains in developing passenger business, citing the experience of the Hiawatha.

"In the western territory one of the newest things in railroading is the rejuvenating process that has been applied to the passenger business through the media of lower fares, new types of equipment and much faster schedules—in a word, giving more for less money. The response of the traveling public to these changes and innovations has been immediate and gratifying, and leads us to believe we are on the way to at least a partial solution of the problem.

"Regular service on our Hiawatha began on May 29, 1935. On November 4 we handled our 100,000th revenue passenger, and on March 31 the 200,000th—a record, by the way, for a new train. The Hiawatha is a profitable as well as a popular venture. Based on the first 10 months of operation, it is earning, above operating expenses, including interest and depreciation, at the rate of almost $700,000 per year.

"All of us have a long way to go in the matter of both freight and passenger traffic to place our operations on a profitable basis. Innovations and improvements on the freight side are constantly being made which, while not as showy, are very distinctly in the line of progress. The railroad industry is not through and railroad men are neither taking counsel of their fears nor their ills. They are devoting all their thought, ingenuity and energy to their lifetime job and the job they love—railroading, and doing it, if you will permit me to say so, with a high and undaunted courage."

Pettengill Bill Would Boost Traffic

(*Continued from page 878*)

lines, strongly object to the repeal of this section of the law. If its repeal would not return to the railways a substantial volume of traffic, it may be interesting to inquire why the water lines so strenuously object.

In your letter you mention the fact that the railroads in making application to the commission for relief under the fourth section should be required to furnish reliable estimates as to how much traffic they expect to recover. We have shown that the burdensome requirements of the commission in this respect lead to long delays and the expenditure of considerable sums of money in making preparation. Our witnesses have pointed out that the requirements of the commission furnish very strong reasons why the Pettengill bill should be passed. Where only one rate adjustment is involved, it requires months of labor to meet the commission's requirements. Certainly in the few days allowed to answer your letter it could not be expected that the carriers could supply information dealing with all the rate adjustments, spread out as they are over the entire United States. Such a study would require the examination of thousands of individual situations and decisions would have to be made as to each of them. These studies would extend over many months indeed and even then there would be so many elements of uncertainty that they would be of little evidential value.

I should not like to have you and the members of the Committee suppose that the request for the passage of the Pettengill bill comes only from railroads engaged in transcontinental traffic. The railroads and their employees in every part of the country are united in support of the bill. Railroads who are engaged in competition with water traffic coastwise along the Atlantic, along the Gulf, along the Pacific coast, along the Great Lakes, along the inland waterways, along the New York State Barge Canal, as well as to several inland points of production highly competitive with producing points on navigable waters, unite with the transcontinental lines in asking that Congress give the railroads a chance to compete.

We do not think the railroads are asking anything which is unreasonable. They only seek to be permitted to compete, subject to restrictions now in the law that the rates must be reasonable and non-discriminatory. If they are given this permission, I feel sure that there will be a substantial increase in railway tonnage and revenues, in railway purchases and particularly in railway employment. I do not stand alone in this opinion; it is shared by those responsible for railroad management, by groups of investors in railroad securities, by the employees speaking through their organizations, and by a great majority of the shippers, particularly those who live in the interior.

It would seem to be in the interest of the general welfare that business should be distributed over the whole country, rather than be confined to a few restricted areas, as has been the case in the decade 1920-1930. Our plea here is in behalf of the interior of the country, dependent largely upon railways to reach the markets of consumption. These interior points should be permitted and are entitled to share in the development which we all so confidently expect. The welfare of these interior points, however, is so intimately interwoven with that of the railroads that they cannot prosper and succeed unless the railroads are permitted to make competitive rates to move the traffic of the interior to the large centers of consumption.

In concluding permit me to say, particularly in response to the opening paragraph of your letter, that the Association of American Railroads most respectfully asserts that it has been guilty of no improper, unethical practices in its advocacy of this bill. It has done what it could to advise the American people of the case for the railroads, but it has not gone beyond the limits of legitimate effort in the exercise of its right to petition Congress for a redress of grievances.

Hearings on the bill before the Senate committee have continued through last week and this week, numerous witnesses being heard in opposition to the bill.

At the hearing on Wednesday when a witness referred to what would happen if the Pettengill bill were passed Senator Wheeler remarked that it would not be passed at this session of Congress.

Agree on Co-Ordination Allowance

Under pressure of threatened legislation railroads agree on allowances for displaced employees

WASHINGTON, D. C.

WITH the threat of the drastic Wheeler-Crosser bill hanging over them a committee representing the railroads, with some exceptions, on May 21, after several months of negotiations, signed an agreement with a committee representing the Railway Labor Executives' Association covering allowances to be made to railroad employees affected by co-ordination, which was defined to mean joint action by two or more carriers whereby they unify, consolidate, merge, or pool, in whole or in part, their separate railroad facilities or any of the operations or services previously performed by them through such separate facilities.

Analogous to some of the New Deal measures the agreement provides for a plan of compensating railroad employees who may be "plowed under" in the process of readjusting the railroad plant to a volume of business reduced by the depression and by the growth of competing forms of transportation. The extent to which it may become effective, it is believed, will depend considerably on the extent to which traffic continues to improve and make new employment opportunities to offset those displaced by consolidation. Even the number of co-ordinations to be effected is expected to depend largely on the same considerations.

The agreement is for a period of five years beginning June 18 and does away with the occasion for the enactment of the Wheeler-Crosser bill, on which hearings had been held before House and Senate committees. The hearings before the Senate committee on interstate commerce had been adjourned to allow an opportunity for the railroads and the labor organizations to reach a "voluntary" agreement but Chairman Wheeler had announced that they would be resumed following an apparent deadlock in the negotiations after an all-night session of sub-committees of the two committees on May 17.

Holding a Club Over the Railroads

Announcement of the agreement was made after another all-night session and after the two committees had called on the President at the White House and reported the result to him, in view of the desire he had expressed in letters addressed to the railroads and the labor organizations on March 6 that the question be settled by negotiations rather than by legislation. Later, however, he had notified the Congressional committee chairmen that this should not stand in the way of Congressional consideration of the bill proposed by the Railway Labor Executives' Association, so that it was held as a club over the heads of the railroads to force them into some sort of agreement. It is understood that the railroad committee early in the negotiations expressed a willingness to accept the principle of a plan of dismissal compensation but that it was difficult, in the circumstances, to reach an agreement as to many details and that additional complications were created by the declination of several large railroads to participate.

The effective date of the agreement follows that of the expiration of the present emergency transportation act, under which Co-ordinator Eastman had proposed to issue orders requiring co-ordination projects, and the agreement is supposed to take the place of the restrictions against reduction in railroad employment contained in that law. However, in spite of the efforts of the railroads, no reference was made in it to the question of the continuation of Mr. Eastman's office. They had sought to have included a provision that that agreement should not be binding in the event of any legislation covering the subject matter.

Wheeler Proposes to Continue Co-ordinator

Senator Wheeler, who had announced his intention of introducing a resolution to extend the office of co-ordinator, immediately announced in the Senate that the signing of the agreement disposed of the Wheeler-Crosser bill, and on May 25 introduced a resolution to continue the office of co-ordinator for three years, omitting the labor restrictions of the present law.

Mr. Eastman, who had also urged that the railroad managements and labor work out a plan of dismissal compensation by negotiation, issued a statement expressing gratification at the result in which he incidentally called attention to the fact that the agreement may have saved some work for the courts. He pointed out that an agreement may be modified as need for change may appear and that "it has the further advantage that no constitutional questions can be raised." He also expressed the hope that "the railroad managements and the Association of American Railroads will take full advantage of the important opportunities which they now have" and indicated that his proposed unification orders would be withheld to give the railroads an opportunity to act voluntarily. The orders had been temporarily deferred at the request of the President pending the negotiations. If issued while the present law is in effect they would be subject to its labor restrictions.

The negotiations had been undertaken at the request of the Railway Labor Executives' Association, which had asked for a conference on the subject with the railroad association and the board of directors of the latter had appointed a committee of presidents for the purpose on December 20, 1935. Later another committee was appointed, which concluded the negotiations, headed by H. A. Enochs, chief of personnel of the Pennsylvania. The labor committee was headed by George M. Harrison, president of the Brotherhood of Railway Clerks and chairman of the Railway Labor Executives' Association. After conferences between the committees had been in progress for some time with little result the bill drafted by the labor organizations was introduced in Congress by Senator Wheeler and Representative Crosser on March 4.

The list of roads stated in an appendix to the agreement as participating in it omits several important carriers, including the Delaware & Hudson in the East, the Kansas City Southern in the West, and the Atlantic Coast Line, Florida East Coast, Louisville & Nashville, and Southern in the Southeast.

The Wheeler-Crosser bill was very broad in its application, applying to any reduction in service and employment, and would have required detailed supervision by the Interstate Commerce Commission over any pro-

posed consolidation or abandonment, including even relatively minor consolidations of the facilities of a single carrier, such as the consolidation of two yards, offices, or stations, or possibly even to changes within such yards, offices, or stations. At the hearings, Mr. Harrison explained that such a broad application was not intended and there were suggestions that the bill should be amended but the discussion at the hearings was continued on the assumption that it would still apply to individual roads.

Section 1 of the agreement provides, however: "That the fundamental scope and purpose of this agreement is to provide for allowances to defined employees affected by co-ordination as hereinafter defined, and it is the intent that the provisions of this agreement are to be restricted to those changes in employment in the railroad industry solely due to and resulting from such co-ordination. Therefore, the parties hereto understand and agree that fluctuations, rises and falls and changes in volume or character of employment brought about solely by other causes are not within the contemplation of the parties hereto, or covered by or intended to be covered by this agreement."

President Cautions Employees

In his letter of March 6 urging efforts on the part of the railroads and labor to reach an agreement the President had said that "the employees ought not to forget what they will gain if the railroads can progress as transportation agencies and what they will lose if the railroads retrogress." They ought to bear in mind, he said, "that the principle of protecting employees against undue hardship from economy projects is only beginning to gain ground. It is not as yet applied by most industries, nor by the other transportation agencies, nor even by the government. The railroad industry has always taken the lead in the establishment of good working conditions and labor relations, but it cannot safely get too far in advance of the procession. . . . On the other hand the managements ought to bear in mind that the principle of employee protection is steadily finding acceptance among responsible employers."

Mr. Eastman, commenting on the agreement said: "I am delighted that the railroad managements and the employees have been able to get together on a plan for the reasonable protection of employees who may be temporarily displaced by consolidations or other co-ordination projects. For a long time I have urged such a disposition of the matter and I believe it to be far better for all concerned than an attempt to provide such protection by legislation. The agreement will be capable of ready modification from time to time, as need may be shown by actual experience, and it has the further advantage that no constitutional questions can be raised.

"Both the managements and the employees are to be congratulated on the statesmanship evidenced by this agreement. It shows what it is possible for industries and organized labor to do, given a sufficient vision and breadth of view.

"The opportunity is now open for many improvements in railroad operation, in line with the governments' program of co-ordination reflected in the emergency railroad transportation act of 1933, which will pave the way for better service at lower prices. In the end the employees will not suffer but gain from such a program, because of the new jobs which a live and growing railroad industry will be able to provide."

The Agreement

Each carrier contemplating a co-ordination, the agreement provides, shall give at least 90 days' written notice to the employees affected and such notice must contain a full and adequate statement of the proposed changes to be effected by such co-ordination, including an estimate of the number of employees of each class affected by the intended changes. Within ten days of receipt of such notice, arrangements must be made for a conference between representatives of the employees and the railroads interested in such changes, and the conference must begin within 30 days from the date of such notice. The agreement sets up machinery for adjusting any disputes which may arise between the employees and the carriers on matters pertaining to co-ordination resulting in the displacement of employees.

Three provisions for financial allowances to employees affected by co-ordinations are provided under the agreement as follows:

1. When an employee affected by a particular co-ordination is placed in a position paying less monthly salary than previously received by him, then the difference must be paid by the carrier for not to exceed five years or until, through promotions or otherwise, the employee receives a salary equal to or greater than that received prior to the co-ordination.

2. Any employee of the carriers deprived of employment as the result of a co-ordination is to receive a "co-ordination allowance" based on length of service which, except in the case of an employee with less than one years' service, shall be a monthly allowance equivalent in each instance to 60 per cent of the average monthly compensation of that employee for the twelve months prior to the co-ordination as follows:

Length of Service	Period of Payment
1 year and less than 2 years	6 months
2 years and less than 3 years	12 months
3 years and less than 5 years	18 months
5 years and less than 10 years	36 months
10 years and less than 15 years	48 months
15 years and over	60 months

An employee with less than one year of service will receive a co-ordination allowance in a lump sum payment equivalent to 60 days' pay.

3. Any employee eligible to the benefits and protections of this agreement may, at his option at the time of co-ordination, resign and in lieu of all other benefits and protections provided in the agreement accept in a lump sum a "separation allowance" determined in accordance with the following schedule:

Length of Service	Separation Allowance
1 year and less than 2 years	3 months' pay
2 years and less than 3 years	6 months' pay
3 years and less than 5 years	9 months' pay
5 years and less than 10 years	12 months' pay
10 years and less than 15 years	12 months' pay
15 years and over	12 months' pay

Employees with less than one year's service would receive five days' pay at the rate of the position last occupied for each month in which they worked.

The agreement also provides for the reimbursement for expenses and certain losses suffered by employees who, because of co-ordinations, are required to change their place of residence. Under this provision such employee would be reimbursed for all expenses of moving his household and other personal effects and for the traveling expenses of himself and members of his family, including living expenses during the time necessary for such transfer and for a reasonable time thereafter not to exceed two working days, used in securing a place of residence in his new location. Any employee furloughed within three years after having been transferred, would also be reimbursed for expenses, if he elects to move his place of residence back to his original place of employment.

The agreement further provides that an employee who is compelled to change his point of employment is to be

reimbursed, at his option, for any loss suffered in the sale of his home for less than its fair value. The carrier also must protect an employee against loss to the extent of a fair value of any equity he may have because of a contract to purchase a home or for any loss resulting from an unexpired lease of a dwelling occupied by him as a home. The agreement provides that no claim for loss shall be paid which is not presented within three years after the effective date of a co-ordination. The agreement also sets up machinery for determining what shall be determined as a fair loss due to the above causes.

In respect to proposed co-ordination between railroads which are parties to this agreement and those which have not participated in it, the agreement provides:

"The provisions of this agreement shall be effective and shall be applied whenever two or more carriers parties hereto undertake a co-ordination; and it is understood that if a carrier or carriers parties hereto undertake a co-ordination with a carrier or carriers not parties hereto, such a co-ordination will be made only upon the basis of an agreement approved by all of the carriers parties thereto and all of the organizations of employees involved (parties hereto) of all of the carriers concerned. No co-ordination involving classes of employees not represented by any of the organizations parties hereto shall be undertaken by the carriers parties hereto except in accord with the provisions of this agreement or agreements arising thereunder."

Transportation Division Meets in Chicago

First convention since 1930 characterized by good attendance and lively discussion

MORE than 200 members were in attendance at the first meeting held since 1930 of the Transportation Division of the Association of American Railroads, at the Hotel Stevens, Chicago, on May 21 and 22. Particularly interesting and informative discussions were held on the average per diem plan, and the proposed reduction in demurrage rates.

In his opening remarks, Chairman W. A. Worthington, vice-president of the Southern Pacific, stressed the operating improvements that have been made by the railways during the depression. He pointed out, among other things, that freight train speed increased 21 per cent, or more than one-fifth, in 1935 as compared with 1929. Efficient freight car handling is now more important than ever, he said, in view of the fact that, since the bottom of the depression in 1932, freight traffic has increased 21 per cent, with some 13 per cent fewer freight cars available in which to handle it, serviceable cars having declined a half million since 1929. In closing, Chairman Worthington stated that the lessons learned during the depression would unquestionably result in new peaks of efficiency in railway operation when business returns to normal.

M. J. Gormley, executive assistant of the A. A. R., stated that progress should be measured by the service furnished and the economy with which such service is performed. On this basis, there is no other industry that can point to as much progress as has been made by the railways since 1920. He outlined the results obtained in operating efficiency by the expenditure of seven billion dollars in the railway improvement program. He stated that the lack of a national thoroughgoing transportation policy was delaying the return of prosperity.

Mr. Gormley also stressed the importance of efficient car handling, pointing out that there are 650,000 fewer cars in service today than during the peak ownership of 1925. He estimated that about 300,000 of these cars are permanently retired as a result of increased efficiency and would not now be required to handle a traffic equivalent to that of 1929, but that the other 350,000 cars must be replaced, and, from all indications, they will be needed soon.

President Bledsoe Speaks

S. T. Bledsoe, president of the Atchison, Topeka & Santa Fe, spoke to the division in part as follows:

The striking thing during the depression has been the determination of railroad officers and employees to fight and to succeed, despite handicaps, and never to admit defeat. The improved service rendered in recent years is the strongest evidence of the virility of the American railroads and of their personnel. During the period of the depression, the railways have supplied better and more expeditious service at a relatively small cost and, under similar restrictions, no other industry could have succeeded as well. With the return of prosperity, the railroads will achieve the most efficient and successful operation they have ever had. There is no reason why the future should seem dark. The railroads will come out of the depression in a sound physical condition, capable of meeting the transportation needs of the country.

Mr. Bledsoe then pointed out that the efficiency and volume of perishable traffic handled in America has no counterpart anywhere in the world. He also outlined some of the improvements that have been made and are still to be made in railroad service. "I expect a substantial, continuing improvement," he said, "and look forward with hope and confidence to the future of American railroads."

Col. Robert S. Henry, assistant to the president of the A.A.R., spoke on the part of transportation officers in public relations. He pointed to the two distinct transportation policies effective in this country, one for the railroads and the other for competing forms of transportation and said that it was the job of every railroad officer to promote a better understanding of the railways with the public so that these two policies would more nearly coincide. He also warned that it was dangerous and unsound to regard the railroad industry as one that needed saving by outsiders. A more sympathetic attitude towards the railways was desirable and even

necessary, he said, but, given that, the railways were well able to save themselves.

Thursday Afternoon Session

In leading the discussion on "The use of refrigerator cars for other than perishable freight," M. J. Gormley cited numerous instances of the use of such cars for commodities not usually regarded as perishables. He suggested that the false impression of the need for refrigerator cars now being created among shippers of commodities that can readily be handled in box cars, is productive of inefficient car handling and increased costs.

The presentation of this subject was accompanied by lively discussion and considerable disagreement as to the desirability of increasing the movement of freight in refrigerator cars. R. B. Croll (C. G. W.), Chairman Worthington, O. C. Castle (S. P.); G. H. Sido (Wabash); W. P. Dalton, (A. T. & S. F.); and G. Metzman (N. Y. C.), outlined their experiences with such loading, while G. C. Randall, of the transportation division, and L. M. Betts, of the car service division of the A.A.R. outlined the subject from a general standpoint. It was pointed out that the payment of the two cents a mile rental for refrigerator cars for such loading was not necessarily an added expense, as it might well cost as much or more to operate a box car in the same service. Some of the members maintained that, under present competitive conditions, the shipper must be supplied with the type of equipment he wants, while representatives of the principal refrigerator car lines denied that active solicitation had been carried on among shippers to use their cars, in cases where it was not necessary for protection from weather conditions or other good reasons.

It was decided to refer the subject to the general committee for investigation and such action as might be found necessary.

Demurrage Charges

J. H. Doggrell (St. L.-S. F.) took the affirmative on the question: "Should demurrage rates be reduced?" and A. G. Thomasson, New England Demurrage Commission, the negative. Mr. Doggrell maintained that the present rates and tariffs are unnecessarily complex and restrictive and that a simplification of the rules, together with a reduction in the rates, would reduce the expense of handling demurrage matters and bring about a better situation for all concerned. Mr. Thomasson contended that the present charges are not burdensome, that the allowance of free time is quite liberal and that the only shippers who are penalized are those who hold cars an unreasonable time, and bring about an abuse of railroad facilities and equipment which should be penalized.

L. P. O'Connor of the Missouri Pacific submitted a plan for extending the free time to five days, instead of the present 48 hr., with the proviso that if the loading or unloading is not completed within that time, the present penalty charges, based on 48 hr., would be assessed.

J. D. Altimas (C. P.) stated that the Canadian roads had made a study of the demurrage situation there and had decided to continue present rates. The study showed that if, in 1934, the detention had been as great as in 1912, the last year when the $1 per day rate for unlimited detention time was effective, every terminal in Canada would have been blocked and there would have been a general car shortage.

A general discussion indicated that there was no unanimity of opinion among the members as to the desirability of reducing demurrage rates and the matter was referred to the general committee for investigation.

E. T. Gaylord (C. B. & Q.), spoke on "Junction Reports." He called the attention of the members to the fact that, largely as a result of faulty junction reports, per diem claims have doubled in the last few years. The remedy for this situation, he said, lies in the proper checking and supervision of the preparation of the interchange slips from which the junction reports are made, and, after discussion by W. F. Dalton (A. T. & S. F.), J. H. Doggrell (St. L.-S. F.), and C. E. Lanham (G. M. & N.), it was decided to refer the matter to the car service division with the request that they have their district managers investigate the situation and correct it where slipshod methods were found.

Committee Reports

Committee reports were read as follows, at the Friday morning session:

General, G. C. Randall, chairman (A. A. R.)
Car Service, R. G. Parks, vice-chairman (A. B. & C.)
Records, J. D. Altimas, chairman (C. P.)
Demurrage, storage, reconsignment and diversion, J. F. Porterfield, chairman (I. D.)
Railroad business mail, P. J. Schardt, vice-chairman (Sou.)

These reports were progress reports, outlining the activities of the various committees in the interim between the conventions, giving the revisions made in car service and other rules by letter ballots. Despite the length of time between the conventions, it was apparent from the progress reports that the committees had been active in meeting the changing needs in transportation during the last six years.

M. J. Gormley read the paper prepared by J. M. Symes, vice-president, A.A.R., wherein Mr. Symes reviewed the activities of the division and suggested the following as subjects for future discussion:

Standardization of equipment
Top icing methods
Use of passenger trains for merchandise traffic
Utilization of small rail passenger units
Use of containers
Acquainting all railroads with new methods and practices

Average Per Diem Plan

W. D. Kendall, chairman of the Car Service division of the A.A.R., presented a paper, accompanied by many informative charts, dealing with the average per diem plan. He stated that experience has shown that there is a reduction in the movement of empty cars through the larger terminals. Studies showed that the principal Chicago belt lines handled 24,000 fewer empties during a period of one month; a St. Louis switching line handled 55,000 fewer empties during a seven months period and a belt line there found empty movement reduced 10 per cent; while at Potomac yard near Washington, 50,000 fewer empties were handled during the same period. These figures, Mr. Kendall said, had been equated to take care of the different traffic conditions existing.

Citing the benefits, he said that the primary purpose, to save empty mileage, was being achieved, as well as a general increase in the net pay load and in getting the proper car for a load.

He also pointed out that, as was expected from the first, certain difficulties have arisen. It was not intended that the average per diem plan should cause violations of the car service rules, but this has happened in some instances. There have also been cases of excessive delay to cars. These, and other defects of the plan can be overcome by effective supervision, Mr. Kendall claimed.

Certain roads have lost per diem under the plan and others have gained, but the average for each dis-

trict shows remarkably even results, according to the following table prepared by Mr. Kendall:

Per Diem Receipts and Payments

	Per Car per Day in Cents—1935			
	September	October	November	December
Eastern district:				
Received	73	67	71	72
Paid	81	75	73	73
Western district:				
Received	73	72	71	76
Paid	67	64	66	74
Southern district:				
Received	64	61	66	70
Paid	65	59	63	67

Mr. Kendall presented charts showing that there is an estimated saving in transportation expense of more than 11 million dollars per annum in the use of the average per diem plan.

Discussion

G. B. Matthews (St. L. S. W.); O. C. Castle, (S. P.); J. D. Altimas, (C. P.); R. L. Sproul, (Sou.); J. R. Pickering, (C. R. I. & P.); W. N. Garvin, (Wab.); and R. G. Parks, (A. B. & C.) participated with Messrs. Kendall, Betts, Beck and Randall of the A.A.R. in the discussion that followed. Taking the experience on individual railroads as a basis, it was brought out that one of the faults of the plan was that it had a tendency to cause a greater laxity in the strict observance of car service rules. The general opinion, even among the railways that claimed to have an unfavorable per diem balance through its operation, was that the plan was worthy to be continued, and that the difficulties and inequalities could be ironed out with proper supervision. To aid in reaching this goal, it was moved that a special committee be appointed to co-operate with the car service division to study the situation and recommend steps to be taken to eliminate the present faults.

J. M. Hood, president of the American Short Line Railroad Association, stated that because of operating and loading conditions, there are certain serious defects to the average per diem plan as applied to short line railroads, and cited instances in support of his point. Mr. Kendall stated that the car service division was willing to co-operate to relieve the burden on the short lines, and explained that, since the plan applied only to railways owning 100 cars or more, relatively few short lines came within its scope.

Friday Afternoon Session

The final session of the convention was presided over by G. Metzman, (N.Y.C.) as vice-chairman of the division.

Mr. Kendall presented a paper on "The automobile device car; its use, demand and supply," wherein he stated that cars equipped with auto loaders had increased from 2,880 in 1933 to 27,392 as of May 1, 1936. His paper contained statistics as to automobile production and the percentage of such traffic that is transported by the various agencies. He mentioned the series of conferences the car service division has had with automobile people in an effort to determine their proposed production schedule so as to be in position to provide the necessary freight cars. He also described the efforts of the industry to level off production throughout the year and to avoid peak periods. Some progress is being made along these lines. He outlined the changes in automobile transportation brought about by the increasing construction of assembly plants in various parts of the country. The proportion of auto traffic shipped by rail in 1935 could have been handled by the present number of cars equipped with auto loaders on the basis of 15 round trips per car per year, each with an elapsed time of 24.3 days. However, the variance in production during 1935 actually produced a car shortage for a short time in the latter part of that year.

Mr. Kendall continued: "With the decentralization of operations in the industry and the uncertainties concerning the distribution of its production, there is no accurate basis by which any railroad may determine its equipment needs in this respect. If automobile device cars were of common ownership, the investment necessary for the railways as a whole could be kept at a minimum by eliminating the delays that now occur in holding cars to match them with shipments in the proper direction."

Following the reading of a paper by O. C. Castle, (S. P.), on the value of regional transportation associations, it was recommended that these are of sufficient value to be revived again, after a lapse of some years.

Any changes in officers, the time and place of the next meeting, and similar matters, will, as is customary, be decided by letter ballot during the year.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended May 16 totaled 681,447 cars, an increase of 12,512 cars as compared with the preceding week and an increase of 98,497 cars, or 16.9 per cent, as compared with the corresponding week of last year. All commodity classifications except live stock showed increases over last year's figures but merchandise, coal, grain, and live stock showed decreases as compared with the week before. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended May 16, 1936

Districts	1936	1935	1934
Eastern	150,361	136,765	140,831
Allegheny	138,074	114,510	124,223
Pocahontas	46,067	38,278	42,738
Southern	94,081	84,084	84,340
Northwestern	106,073	82,451	86,923
Central Western	94,794	82,003	85,610
Southwestern	51,997	44,859	47,666
Total Western Districts	252,864	209,313	220,199
Total All Roads	681,447	582,950	612,331
Commodities			
Grain and Grain Products	30,557	25,184	28,618
Live Stock	11,672	12,516	16,224
Coal	106,679	100,812	104,803
Coke	8,004	5,870	6,856
Forest Products	33,126	24,201	24,989
Ore	46,559	28,027	24,985
Merchandise L.C.L.	162,269	158,120	164,278
Miscellaneous	282,581	228,220	241,578
May 16	681,447	582,950	612,331
May 9	668,935	575,020	602,798
May 2	671,154	568,927	605,246
April 25	666,181	558,936	609,704
April 18	642,657	611,141	591,705
Cumulative Total, 20 Weeks	12,473,593	11,533,916	11,726,003

Car Loading in Canada

Car loadings in Canada for the week ended May 16 totaled 44,928, as compared with 43,561 last year, but were lighter than in the previous week by 213 cars, according to the summary compiled by the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 16, 1936	44,928	24,551
May 9, 1936	45,141	25,063
May 2, 1936	47,262	26,651
May 18, 1935	43,561	21,532
Cumulative Totals for Canada:		
May 16, 1936	857,930	473,221
May 18, 1935	850,512	454,397
May 19, 1934	832,190	471,048

New Books...

Railway Maintenance Problems, by Lt. Col. H. A. Hull, formerly district engineer, London & North-Western and London Midland & Scottish, Northampton, England, 5½ in. by 8 in., 82 pages, illustrated. Bound in cloth. Published by the Railway Gazette, 33 Tothill street, Westminster S. W. 1., London, England. Price, 5 shillings, net.

It is, of course, impossible to cover the entire field of roadway and structures maintenance wthin the space of 82 pages, and the author makes no pretext at doing so. Instead, he has selected a group of problems that have been encountered, largely in his own personal experience, gives his analysis of the causes of the troubles and outlines the solutions adopted. The chapters on earthwork (dealing with slides), drainage, foundations, abutments, etc., and permanent way present information that should prove of value to the American railway officer. Others, on superstructures, ancillary works, and shovel packing (tamping) deal with structures or practices that differ so widely from American conditions that their context is not directly applicable, although a reading of them should afford a broader outlook to the man who is confronted with comparable problems. The chapter on Mishaps Attributable to Permanent Way cites the time-worn controversy between roadway and equipment departments and presents a good case for the latter with respect to specific derailments that have occurred during the author's experience.

Transportation by Water, by Emory R. Johnson, Grover G. Heubner and Arnold K. Henry. 585 pages, 8½ in. by 5 in. Illustrated. Bound in cloth. Published by the D. Appleton-Century Company, Inc., New York. Price, $5.

This latest addition to the "Appleton Transportation Series" is a comprehensive treatise on the economies of transportation by water and the business and governmental problems connected therewith. Its fundamental point of view is that transportation by water is a great business enterprise employing various facilities and having many complicated problems of administration, service, competition and rate making; and that only secondarily is it a business regulated and aided by the government. Hence three-fourths of the chapters are concerned with the actual business of transportation by water, and only one-fourth with governmental regulation and public policy.

While railway men, as transportation specialists, will be generally interested in the entire treatise they will no doubt be more particularly gratified to find objective discussion with sound recommendations in connection with problems of government competition, subsidy and equitable regulation. In discussing Inland Waterways Corporation, for example, the authors cite with approval various reports recommending its early sale by the government, but find that Corporation's financial record "can hardly be said to be encouraging to private capital." Also, the dole to particular industries able to operate on the inland waterways as private carriers is emphasized in discussions of traffic on government-improved rivers and canals.

The authors' analysis of the recent increase in tonnage on the New York canals, which "have proved an expensive burden to the state," indicates that these "may be used increasingly by private carriers in connection with their industrial operations, and that the operations of common carriers serving the general public will become of declining importance." And the improvements to the Ohio river and its affluents "at the expense of the general public, provide facilities useful to, and mostly used by, private industries. . . . A part of the transportation costs of certain industries that make use of the river is borne by the public. Similar industries located elsewhere pay all the costs of transporting their products."

Despite the foregoing set up and the present surplus of transportation, the authors observe that "The government is still more concerned with adding to waterway and highway transportation facilities than with bringing about the co-ordinated use, under like conditions of regulation, of railroad, waterways and highways." They close with specific recommendations in this connection and with others on ocean shipping and merchant marine policy, noting with pleasure their finding of "encouraging evidence" that the public understands the nature of the transportation problem and thus the outlook is hopeful for "a co-ordinated and well-balanced national system of transportation."

Odds and Ends...

Unique Organization

The Ladies' Shore Commuters' Club has just celebrated its first anniversary at Red Bank, N. J. It was formed last year when a club car was provided on the trains patronized by these women on their way to and from New York. The women have purchased fly screens for the car and have installed a kitchenette.

Caboose Again on Exhibition

Rock Island caboose 18058, in charge of its genial and well-known conductor, Jim Bullard, is again in off-line service. This caboose, famous for its solicitation activities, was exhibited at the Century of Progress exposition in Chicago. After being on view at Tulsa, Okla., at the International Petroleum Exposition, from May 16 to 23, the caboose moved on to Dallas for the Texas Centennial Exposition, where it will remain until September 6.

Composer

Some time ago the New York Railroad Club offered a prize of $25 for the best song composed by one of its members and sung to a tune, original or otherwise. These songs came in from time to time and were tried out by throwing them on the screen and having the whole crowd sing under the direction of H. C. Crowell, chairman of the music committee, and led by Fred W. Bender, signal engineer of the Jersey Central. A sound recording machine was used to determine the volume of applause. The songs which won out in the two elimination contests were sung again at the March meeting of the club and the first prize was awarded to George Herbert, assistant freight traffic manager of the Delaware, Lackawanna & Western.

King of Hobbies

To Dave Smalley, of the valuation department of the Southern Pacific Lines, at Houston, Texas, goes the title of hobby king. Dave has several laboratories in his home. One, a radio laboratory, comprises amateur broadcasting station W5DMB. Every part of this station was built and installed by Dave himself. He also has an astronomical laboratory, including a special telescope built by himself. He is a collector of note, having a small museum of rocks, fossil bones, meteoric deposits and other objects. He is also an artist and has sold several paintings. During a hospital siege some years ago, he acquired the knack of building miniature ships in bottles. In addition he has built a robot which can be made to do a variety of uncanny things by a touch of the button. Smalley has a few other hobbies, but the above are his principal pastimes.

Revenue from Railside

Railway embankments and right of way are not generally regarded as a source from which the Great Western of England derives appreciable and regular revenue. Yet, in a variety of ways, these premises actually do bring in a considerable sum each year. For example, at thousands of points throughout the system the right of way is cultivated as allotments, as fowl runs, market gardens or used for the grazing of tethered goats, while in Devonshire several miles of ground alongside the line have been let for planting an apple orchard. Grass hay from the banks and, in some cases, wild flowers also contribute to the revenue.

In contrast to these outward and visible signs of revenue are the water pipes and cables which pass under the line and on which an annual charge is made for this privilege. Similarly with cables carried over the track and for every one of the lattice girdered pylons erected on the company's property by the Central Electricity Board. Wireless aerials, eaves or footings of buildings overhanging or extending on to the company's property also bring their quota as do bridges and viaducts, the arches of which are frequently converted into shops, warehouses and garages. Even the humble rabbit, in fact, contributes his share in the trapping rights let for his destruction, usually to adjacent land owners who are anxious to preserve their crops.

NEWS

Seeks Three More Years for Co-ordinator Office

Resolution providing for extension introduced on May 25 by Senator Wheeler

A joint resolution to extend the office of federal co-ordinator of transportation for three years was introduced in the Senate on May 25 by Senator Wheeler, of Montana, chairman of the Senate committee on interstate commerce, in accordance with his announcement of last week, although at that time he had spoken of an extension for two years. The President has expressed his desire that Co-ordinator Eastman should have time to complete some of the tasks he has undertaken and is understood to have discussed the matter with the chairmen of the House and Senate committees in charge of such matters while they were his guests on a Sunday river trip on May 17.

Senator Wheeler's resolution S. J. Res. 271 provides that Title I of the emergency railroad transportation act, 1933, "shall continue in full force and effect until June 17, 1939, but orders of the co-ordinator or of the commission made thereunder shall continue in effect until vacated by the commission or set aside by other lawful authority, but notwithstanding the provisions of Section 10, no such order shall operate to relieve any carrier from the effect of any state law or of any order of a state commission enacted or made after this title ceases to have effect."

Provision is also made that each railroad shall pay into a fund for the maintenance of the office $2 for every mile of railroad operated by it on December 31 of the previous year. This is the same rate as the present assessment, although for the first year of the office the rate was $1.50 a mile.

Because of the agreement on a plan of "co-ordination allowances reached by committees representing the railroads and the labor organizations last week, the resolution provides for repeal of subsections (b), (c), (d), and (e) of Section 7 of the present law, which include the restrictions against reductions in railroad employment as a result of orders issued by the co-ordinator but the resolution would keep in effect the provisions under which the federal co-ordinator would have power to issue orders to the railroads, a power which for three years has been largely nullified by the labor restrictions.

At his press conference on May 26 the President in reply to questions reiterated his belief that the work of the co-ordinator's office should go forward to completion, but said that it was for Congress to decide in what form. No suggestion has yet been made in Congress of any other plan than that provided for in the Wheeler resolution.

At the same time the President indicated that he favored continuation of the work undertaken by the Senate committee under a resolution authorizing an investigation of railroad financial affairs. The committee has recently asked for additional time and an additional appropriation of $100,000 to complete the investigation, and the matter is being considered by the committee to audit and control the contingent expenses of the Senate.

A Billion Dollars

Every time congress gets to tinkering with a billion dollars or more one is inclined to get his pencil and paper to gain a better understanding of what a billion means.

It doesn't help much to say that a billion is one thousand millions, for one then asks, what's a million?

If a cattle feeder should feed 100 steers each year and make a profit of $10 on every steer, his profits would reach a billion dollars at the end of the one millionth year.

Earning pin money at the rate of $2 per week by making butter, ma would pile up a billion dollars at the end of nine million six hundred fifteen thousand three hundred eighty-five years, if she didn't spend any of it.

How long does it take congress to raise a billion dollars? Long enough for a majority of congressmen and senators to yell "Aye!" It's easier to vote a billion of the other people's money than to churn butter for nine million years.

—From the Chicago Daily Drovers Journal

Court Hearings on Retirement Act

Hearings before the supreme court of the District of Columbia on the bill of complaint filed by the railroads attacking the constitutionality of the railroad retirement act and of the accompanying tax act, which were begun on May 20, has been continued this week. Witnesses who have testified on behalf of the railroads include E. G. Buckland, chairman, New York, New Haven & Hartford; F. E. Williamson, president, New York Central; Hale Holden, chairman, Southern Pacific; George B. Elliott, president, Atlantic Coast Line, and L. A. Downs, president, Illinois Central.

Another Last-Minute Order Suspends Storedoor Tariffs

Commissioner Tate, changing his vote forces I. C. C. to reverse itself within two days

Because of a last-minute change of vote by one member of the Interstate Commerce Commission, Commissioner Tate, the new storedoor pick-up and delivery tariffs of the eastern railroads, which the commission on May 4 had authorized them to file on ten days' notice, did not become effective on May 25 as planned. After voting on May 21, after consideration of many petitions from the trucking interests, not to rescind its special permission order of May 4 the commission abruptly reversed itself on May 23 and announced that the tariffs had been suspended. Commissioner Tate's term expires in December.

Commissioner Tate

In both cases the vote was six to five but on May 21 Commissioner Tate voted on one side of the question and two days later, after receipt of another petition from the American Trucking Associations, Inc., he voted to suspend the tariffs. The petitions of the trucking interests asking that the special permission order be cancelled were supported on May 21 by the votes of Commissioners Eastman, Lee, Caskie, Meyer, and Splawn, three of them being members of the commission's Division 5 which is in especial charge of motor carrier regulation, while Commissioners Mahaffie, McManamy, Aitchison, Tate, Miller, and Porter voted to stand by the action of May 4. The filing of a new petition by the national trucking association gave an opportunity for reconsideration and it was announced on Saturday, two days before the effective date of the tar-

iffs, that "the commission today, upon reconsideration, has voted to suspend in Investigation and Suspension Docket No. 4191 schedules providing free pick-up and delivery service in official territory to become effective May 25, 1936."

The tariff schedules thus suspended were the modified ones proposed by a number of the principal eastern roads after the commission had suspended, by another six-to-five vote, the tariffs they had filed to become effective on April 1 proposing a general extension in eastern territory of the pick-up and delivery system. The modified plan omitted the restriction to rail hauls of 260 miles or less which had been in effect on the Erie, Grand Trunk and Pennsylvania for a year, so as to include hauls beyond that distance without charge over and above the line-haul rate, and also omitted any allowance to shippers for performing their own drayage service.

The commission has announced a hearing in the investigation and suspension case for June 16.

When the suspension order came the Eastern roads had virtually completed plans for inaugurating the service and had advertised it quite extensively. Meanwhile the May 24 meeting of New York City truckmen, planned as a last minute mass protest, proved unnecessary in that connection and was turned into a discussion of plans for continuing the fight at hearings on the suspended tariffs. Also last week's rumors of a "truckmen's strike" in New York in protest against the service were stilled, as were similar rumors which preceded the suspension of the April 1 tariff.

Among New York business interests protesting against the suspension action was the New York Board of Trade. Percy C. Magnus, president of this organization, had written on the day previous to the suspension order, a letter to George B. McGinty, secretary of the I.C.C., expressing the Board of Trade's gratification at learning that the storedoor service would be inaugurated May 25. This letter expressed the belief that "the public interest will be served and that shipments will be expedited," even though the change "will necessitate readjustments, and some trucking firms may have to seek new business." At the same time Mr. Magnus also issued a statement outlining the advantages of the proposed storedoor service. On Tuesday of this week, however, the suspension order drew from him further comment which declared that "if this is a fair example of government regulation of railroads, then most certainly no business man wants government ownership." The jolt which carriers and shippers received he outlined briefly as follows: "Thursday afternoon the Interstate Commerce Commission approved tariffs for storedoor pick up and delivery service. On Friday shippers were notified by the railroads, which acted in good faith, that such service would become operative on Monday. On Saturday afternoon the tariffs were suspended. Orders were placed, prices were quoted, and delivery arranged for by business men during this day and a half in the belief that the I.C.C. knew its mind on Thursday when it approved the tariffs."

Mechanical Division Announces Meeting Place

The Mechanical Division, Association of American Railroads, has announced that the 1936 annual meeting, scheduled for June 25 and 26, will be held at the Congress Hotel, Chicago. The meeting will convene at 10 a.m. Eastern Standard Time on the first day and 9 a.m. on the second day. The program will be completed by noon on June 26, if possible.

R. & L. Historical Society to Hold First New York Dinner

The New York Chapter of the Railway & Locomotive Historical Society will hold its first annual dinner at the Columbia University Club, New York, on June 11. The members are to be entertained with moving pictures of some of the country's fastest trains and an exhibit of model locomotives to which the Baltimore & Ohio is to contribute.

Emergency Board for Western Pacific Labor Dispute

President Roosevelt on May 21 appointed an emergency board under the terms of the railway labor act to report on a dispute between the Western Pacific and its electrically-operated subsidiaries and their employees on which a strike vote had been taken. The board consists of G. S. Arnold, of San Francisco; Macy Nicholson, of Hagerstown, Ind., and W. J. French, of Berkeley, Calif.

Allotments Approved for Rivers and Harbors

Out of the appropriation of $159,427,899 for rivers and harbors made in the annual War Department appropriation bill recently passed by Congress, Secretary of War Dern has approved allotments for new work amounting to $103,458,839 and for maintenance amounting to $34,408,150. The allotments for new work include $23,900,000 for the upper Mississippi, $5,000,000 for the Illinois waterway, $29,000,000 for the Missouri including the Fort Peck dam project, $5,000,000 for the Great Lakes to Hudson river waterway, and $4,000,000 for the Delaware River-Chesapeake Bay inland waterway.

C. G. W. Plans to Expand Truck Service

An agreement for an integrated truck and rail service between Chicago and the Twin Cities was on May 26 entered into by the Chicago Great Western and the Illinois-Minnesota Motor Carriers' conference, the signing of a contract by the 14 trucking company members following an agreement entered into between the railroad and Keeshin Motor Express Company, Inc. The contract extends for two years.

Tariffs will be filed with the Interstate Commerce Commission under the provisions of the motor carrier act of 1935 which provides for joint rates by railroad and truck and service will be started as soon as the tariffs become effective.

It is estimated that the motor carriers are now transporting over the highways between Chicago and the Twin Cities a volume of traffic sufficient to require the operation of a daily train of 25 cars or more in each direction. The construction of ramps to permit trucks and trailers to be placed on Great Western flat cars is now in progress at the railroad's yards at Laramie avenue and Roosevelt road, Chicago.

Florida Canal Project Again Before Senate

A favorable report on the resolution providing for a new study of the Florida ship canal and Passamaquoddy dam projects was voted by the Senate committee on commerce on May 26. The resolution, introduced by Senator Robinson, majority leader, provides for the appointment by the President of boards of engineers to study the projects and report by June 20. If the engineering report should be favorable the President would be authorized to allocate an additional $10,000,000 of work-relief funds for work on the canal, which was started with an allocation of $5,000,000 without any authorization by Congress of the project as a whole.

Changes in Container Specifications Proposed

Public hearings on proposals for changes in specifications for containers or rules for loading fresh fruits, melons, and fresh vegetables will be inaugurated by the Perishable Division of the Freight Container Bureau, Association of American Railroads, at Chicago, on June 2, according to announcement by Edward Dahill, chief engineer. Later sessions will be held at Houston, Tex., on June 5; Los Angeles, Calif., on June 9; Seattle, Wash., on June 15; New York, June 8, and Jacksonville, Fla., on June 11.

Complete information as to the proposed changes or additions, whether initiated by the carriers or the shippers, are available at the headquarters of the Freight Container Bureau, 30 Vesey street, New York.

Depreciation Accounting Prescribed for Pullman Company

Following in general the conclusions recommended by its examiner in a proposed report, Division 4 of the Interstate Commerce Commission has issued an order, effective January 1, 1937, prescribing a system of depreciation accounting for sleeping car companies, which means the Pullman Company, based on the fundamental principles which were decided by the commission to be controlling as to railroads and telephone companies with recognition to conditions peculiar to the sleeping car business. The record showed, the report said, that the Pullman Company recognized the propriety of depreciation accounting, and its accounts for many years have included charges for operating expenses to cover accruing depreciation on all but a relatively small part of its property, uniform annual rates upon the straight line basis being used, and in general the unit method has been applied. The principal objection made by the company to the proposed report concerned the proposed change from the unit method to

the group method, but the latter is approved by the commission. The order provides that the depreciation base shall be the ledger value as shown in the company's accounts, to the extent that such ledger value represents cost to the company.

Western Roads Protest Rail-Truck Joint Rates

Western railroads with some exceptions have filed with the Interstate Commerce Commission a protest asking the commission to suspend the tariff filed recently by the Keeshin Motor Express Company, to become effective on June 8, naming rail-motor rates on freight in trucks, trailers, or semi-trailers to be carried on flat cars between eastern and western points via the Chicago Great Western and the Clinton, Davenport & Muscatine. The protest contends that the tariff is in violation of several sections of the interstate commerce act and that the rates proposed are below reasonable all-rail rates and would disturb and destroy the existing rail rate structure which has in large part been prescribed or approved by the commission.

Arguments on Freight Surcharge Concluded

Four days of oral argument before the members of the Interstate Commerce Commission and a co-operating committee of state commissioners on the petition of the railroads for an indefinite continuation of the emergency freight rate "surcharges" authorized by the commission in Ex Parte No. 115 were concluded on May 27. Counsel for the railroads, estimating that the surcharges are bringing in increased revenue at the rate of approximately $100,000,000 a year, contended that the financial condition of the railroads, in spite of some increase in business, is still such as to require this addition to their revenues, but it was opposed by a large number of shippers. Under the provisions of the commission's order the surcharges expire on June 30 unless extended.

Loan Made to B. & M. to Repair Flood Damage

An allotment of $2,000,000 to the Boston & Maine for the purpose of repairing and rehabilitating railroad property damaged by floods during March has been announced by Public Works Administrator Harold L. Ickes. The loan was made from PWA's revolving fund. The Boston & Maine suffered substantial property damage when the Connecticut, Millers, Merrimac and Seco rivers flooded. Many miles of railroad were under water and there were numerous washouts and slides, as well as damage to bridges in Maine, New Hampshire, Vermont and Massachusetts. A very high percentage of the cost of repairs will be labor costs. The loan will provide a large amount of employment at once throughout the area served by the railroad.

Club Meetings

The Toronto (Ont.) Railway Club will hold its summer dinner meeting at Hotel London, London, Ont., on Saturday evening, June 6. This will take the place of the May meeting. The guest speaker will be Honorable C. D. Howe, Canadian minister of railways and canals. The dinner will be preceded by golf in the afternoon, beginning at one o'clock.

The Toledo (Ohio) Transportation Club, at its recent annual meeting and election, chose as president for this year U. E. MacFarland, general traffic manager of the Owens-Illinois Glass Company. Other officers elected are: First vice-president, D. W. Sanzenbacher, division freight agent, Nickel Plate; second vice-president, W. J. Chisholm, traffic manager, Woolson Spice Co.; secretary, C. H. Lorenz, division passenger agent, Wabash; treasurer, J. E. Rheiner, general agent, Nickel Plate.

Application of Pan-American Bus Lines—A Correction

The article "Existing Bus Line Refused Permit," which appeared in the Motor Transport Section of the *Railway Age* of May 23, page 843, was in error in reporting that the Interstate Commerce Commission had issued an order refusing the Pan-American Bus Lines a certificate of public convenience and necessity for the continuance of its operations between New York and Miami, Fla. The findings discussed in the story are those of a proposed report on the Pan-American application by John L. Rogers, director of the I.C.C. Bureau of Motor Carriers, who has recommended an adverse finding and order. Exceptions to this proposed report and order, which do not become effective unless issued by the commission, may be filed within 20 days from the proposed report's date.

Additional Service to Resorts on Southern

The Southern plans this summer to operate additional passenger train services to the Western North Carolina-Eastern Tennessee mountain resort region in order to take care of an anticipated increase in travel. New sleeping cars will be established to Asheville, N. C., from New Orleans, La., on June 15, while on the following day a tri-weekly sleeper from Richmond, Va., to Asheville will be inaugurated. Other sleeping car service from Atlanta, Ga., and Memphis, Tenn., will be inaugurated respectively on May 30 and June 1.

Frank L. Jenkins, passenger traffic manager of the Southern, in a recent statement, expressed his optimism over prospects for an increase this year in tourist travel to this region, which the Southern is now featuring in its passenger traffic advertising.

Olympian Completes 25 Years' Service

The Olympian, of the Chicago, Milwaukee, St. Paul & Pacific, on May 28, completed a quarter of a century of transcontinental passenger service. Following completion of the Milwaukee's lines west of the Missouri River, this through train service between Chicago and Tacoma, Wash., was inaugurated from both terminals on May 28, 1911. In 1927 the train was re-equipped and it was the first through train to be equipped with roller bearings. Since its inauguration the schedule for the 2,200 mile trip has been reduced 13 hr. In contrast to the train of 1911, all cars of the present train are air-conditioned. The consist includes an observation car with library, radio, barber, valet, shower bath and buffet service; drawing room, compartment and open section standard sleeping cars; a modernized type of tourist sleeping car; dining cars and de luxe coaches with many conveniences new to day coach passengers.

Annual Meeting of Freight Claim Division

The annual meeting of the Freight Claim Division of the Association of American Railroads will be held at the Hotel Sherman, Chicago, on June 2-4. The program of the meeting is as follows:

Tuesday Morning, June 2

Address—Speaker to be announced.
Address—J. L. McCormack, chairman, Freight Claim Division.
Report of the secretary.

Afternoon Meeting

Report of Committee on Prevention of Loss and Damage.
Discussion of—
(1) Damage to fresh fruits, melons and vegetables.
(2) Carload damage.
(3) Less carload loss and damage.
(4) Suggestions from the floor.
Action on report of Committee.

Wednesday Morning

Report of Committee on Rules of Order.
Election of officers.
Selection of dates and place for 1937 annual session.
Report of tellers on appeal committee election.
Balloting for arbitration committees.
Report of general committee.

Wednesday Afternoon

Report of general committee regarding principles and practices.
Report of Committee on Freight Claim Rules.

Thursday Morning

Report of Committee on Freight Claim Rules (continued).

Thursday Afternoon

Report of Committee on Freight Claim Rules (continued).
Announcement of personnel of arbitration committees.
Adoption of amended reports as a whole.
Closing business.

E. J. & E. Held Not in Violation of Commodities Clause

Efforts of the federal government to give a reverse twist to the "commodities clause" of the interstate commerce act by applying it to the Elgin Joliet & Eastern on the ground that its stock is owned by the United States Steel Corporation and that the railroad transports products of subsidiaries of the corporation came to naught as a result of a decision of the Supreme Court of the United States on May 25 affirming that of the district court for the northern district of Illinois. On information supplied by the Interstate Commerce Commission the government brought suit against the railroad for violation of the commodities clause which makes it unlawful for a railroad to transport in interstate commerce any commodity manufactured, mined, or produced by it or under its authority, or which it may own in whole or in part or in which it may have an interest, except such commodities as may be necessary for its own use.

The opinion of the court, pointing out that the steel corporation is a non-operat-

ing organization, holding the shares both of the railroads and of the producing steel companies, said that the transportation was not illegal in the absence of a more intimate relation between the companies than that shown in this case. It stated that the railroad "functions as a separate corporate carrier under immediate control of its own directors, no one of whom is on the board of the holding company; it owns all necessary equipment, makes its own contracts, manages its own finances, serves its patrons without discrimination and apparently to their satisfaction," and that "the present proceeding is one to prevent probable future unlawful conduct and not to punish acts long since completed, however reprehensible."

A.S.M.E. Spring Meeting

The semi-annual meeting of the American Society of Mechanical Engineers will be held at Dallas, Tex., June 15 to 22, inclusive. This is during the early part of the Texas Centennial Exposition. While the headquarters for the meeting will be at the Hotel Adolphus, most of the technical sessions will be held in the Power Building and the Telephone Building, both of which are within a block of the hotel. The program now includes the following technical papers:

WEDNESDAY, JUNE 17
Railroad Locomotive Session
9:30 a.m.

Equipment Problems in Handling Oil as a Locomotive Fuel, by Guy Bean.
Railroad Lubricants, B. F. Hunter.
Production of Locomotive Fuel Oil, M. C. VanGundy.

3:15 p.m.
Transportation Session

Diesel Electric Locomotives for Switching and Transfer Service, R. D. Krape.
Mass Transportation for Cities, J. C. Thirwall.
Fuels for Today's and Tomorrow's Engines, Earl Bartholomew and C. D. Howley.

Machine Shop Session

The Use of the X-ray Testing of Welded Vessels, H. R. Isenburger.
The Spraying of Molten Metal, L. E. Kunkler.

THURSDAY, JUNE 18
9:30 a.m.
Air Conditioning Session

Sensible and Latent Heat Control for Air Conditioning, F. W. Rabe, Jr.

Educational and Training Session

Vocational Training in the Southwest, A. W. Breeland.

2:00 p.m.
Diesel Session

Fuel Injection Spark Ignition Oil Engines, N. Fodor.
Diesel Fuels, T. B. Rendel.

Pacific Railway Club to Sponsor Second Educational Institute

The Pacific Railway Club has announced a second Railroad Educational Institute to be held in San Francisco in September, October and November of the present year. It is to be similar to the first institute held under the club's auspices in 1934, in which 834 railway officials and employees were enrolled with an average attendance of nearly six hundred at the ten sessions. The institute to be held this Fall will consist of ten or twelve sessions and will include the presentation and discussion of various phases of railway economics, particularly those bearing on highway, water and air competition. As at the first institute, lecturers will be drawn from the local universities and the railroad official personnel, and will be selected for their knowledge of the topic presented and their ability to handle it in an interesting and instructive manner. William S. Wollner, who was director of the institute in 1934, has been selected as director of the 1936 Institute.

Program for Superintendents' Convention

The American Association of Railroad Superintendents will hold its forty-second annual convention at the Hotel Stevens, Chicago, on June 16-18. The program for this convention follows:

Tuesday Morning, June 16

Opening address by W. F. Thiehoff, general manager, C. B. & Q.
Address by the president—H. C. Rochester, superintendent passenger train service, Canadian National.
Report of secretary-treasurer—F. O. Whiteman.
Report of Committee No. 7—Expediting the Movement of Cars in Yards and Terminals—F. F. Laird, chairman, supervisor yard and terminal operation, C. & O.

Afternoon Session

Report of Committee No. 6—Operating Aspects of Faster Passenger Train Service—J. H. Valentine, chairman, superintendent, C., M., St. P. & P.
Address on Signaling for High-Speed Train Operation, by Burt T. Anderson, director, Bureau of Railway Signaling Economics.
Report of Committee No. 5—Operating Aspects of Faster Freight Train Service—F. M. Barker, chairman, superintendent, Lehigh Valley.

Wednesday Morning

Report of Committee No. 1—Meeting Today's Demands in the Loading of Cars—S. F. Mackay, chairman, general superintendent transportation, N. Y., N. H. & H.
Address on Car Service Rules from a Superintendent's Standpoint—by W. C. Kendall, chairman car service division, A. A. R.
Address on The Greater Utilization of Freight Equipment—by P. W. Johnston, assistant general manager, Erie.
Report of Committee No. 3—Meeting Today's Demands in L. C. L. Service—W. L. Fox, chairman, general superintendent, Belt Ry. of Chicago.

Luncheon

Address on Meeting Today's Transportation Problems, by Carl R. Gray, president, Union Pacific System.

Afternoon Session

Report of Committee No. 2—What Can Be Done to Strengthen Operating Organizations—R. C. Randall, chairman, superintendent, Erie.
Address on "Why Your Bureau of Explosives," by W. S. Topping, chief inspector, Bureau of Explosives.
Round table: For the informal consideration of transportation problems raised by members.

Thursday, June 18

Report of Committee No. 4—Application of Discipline—V. Parvin, chairman, general superintendent, Ann Arbor.
Business session: Election of officers, etc.

On Thursday afternoon members of the Association will inspect the shipping facilities of Sears, Roebuck & Company, studying methods employed by that company to select transportation agencies, determine routings, and in loading cars for its varied shipments.

Abandonment of Spur

The Oregon Short Line applied to the Interstate Commerce Commission for authority to abandon nine miles of track in Teton County, Idaho, known as the Talbot branch and extending to a coal mine at Talbot. The State of Idaho and the Public Utilities Commission objected, on the ground that the Talbot branch was a "spur" or "industrial track," located wholly within the State and therefore expressly excepted from the jurisdiction of the Interstate Commerce Commission by the Transportation Act. The objection was over-ruled and authority was granted. (193 I.C.C. 697.)

The State and Public Utilities Commission then sued the United States, the Interstate Commerce Commission and the Oregon Short Line, a Utah corporation, in the federal court for Utah to have the order authorizing abandonment set aside. The case was heard before three judges. The record before the Commission and some further testimony were introduced. The court found that the branch was constructed and had been maintained to serve a single industry and was a spur. The order was therefore annulled as being without the jurisdiction of the Interstate Commerce Commission. (10 F. Supp. 712.)

This decree is affirmed by the Supreme Court of the United States, saying that, although it would have been better practice to have introduced all relevant evidence before the Commission, "the court did not err in admitting the additional testimony. For whether certain trackage is a 'spur' is a mixed question of fact and law left by Congress to the decision of a court—not to the final determination of either the federal or a state commission."

"Paragraph 20 of section 1 of the Interstate Commerce Act authorizes any party in interest to apply to 'any court of competent jurisdiction' to enjoin an unauthorized abandonment; and if, on such application, Talbot branch should be held to be a spur, it could not be abandoned legally without the consent of the Public Utilities Commission of Idaho. It is only because the plaintiffs sought also to have the order of the Interstate Commerce Commission annulled (compare Texas Pacific v. Gulf, Colorado & Santa Fe, 270 U. S. 266, 271-274) that the case was one for three judges and could be brought here by direct appeal under the Act of October 22, 1913, c. 32, 38 Stat. 208, 220." United States et al. v. State of Idaho et al. Decided April 27, 1936. Opinion by Mr. Justice Brandeis.

New England Roads Meet Demand for "Fireman" on Diesels

The New York, New Haven & Hartford, the Boston & Maine and the Maine Central this week agreed to use a "fireman-helper" on each of their present Diesel locomotives, including streamlined trains, thereby settling the issue which had threatened to result in a strike of members of the Brotherhood of Locomotive Firemen & Enginemen. Members of this brotherhood, employed on these New England lines, last week concluded a vote favoring a strike if the roads continued operating Diesel power with one man.

In announcing its agreement the New Haven said that it has "agreed to use a fireman on present Diesel power including the 'Comet.' The matter of having a fireman on Diesel switching locomotives which may be placed in service at a later date was left open for future discussion on a regional or national basis."

The Boston & Maine has agreed to employ firemen as helpers in the cab of the streamlined "Flying Yankee," in the cabs of its two Diesel-propelled passenger locomotives, and in the cabs of its two Diesel

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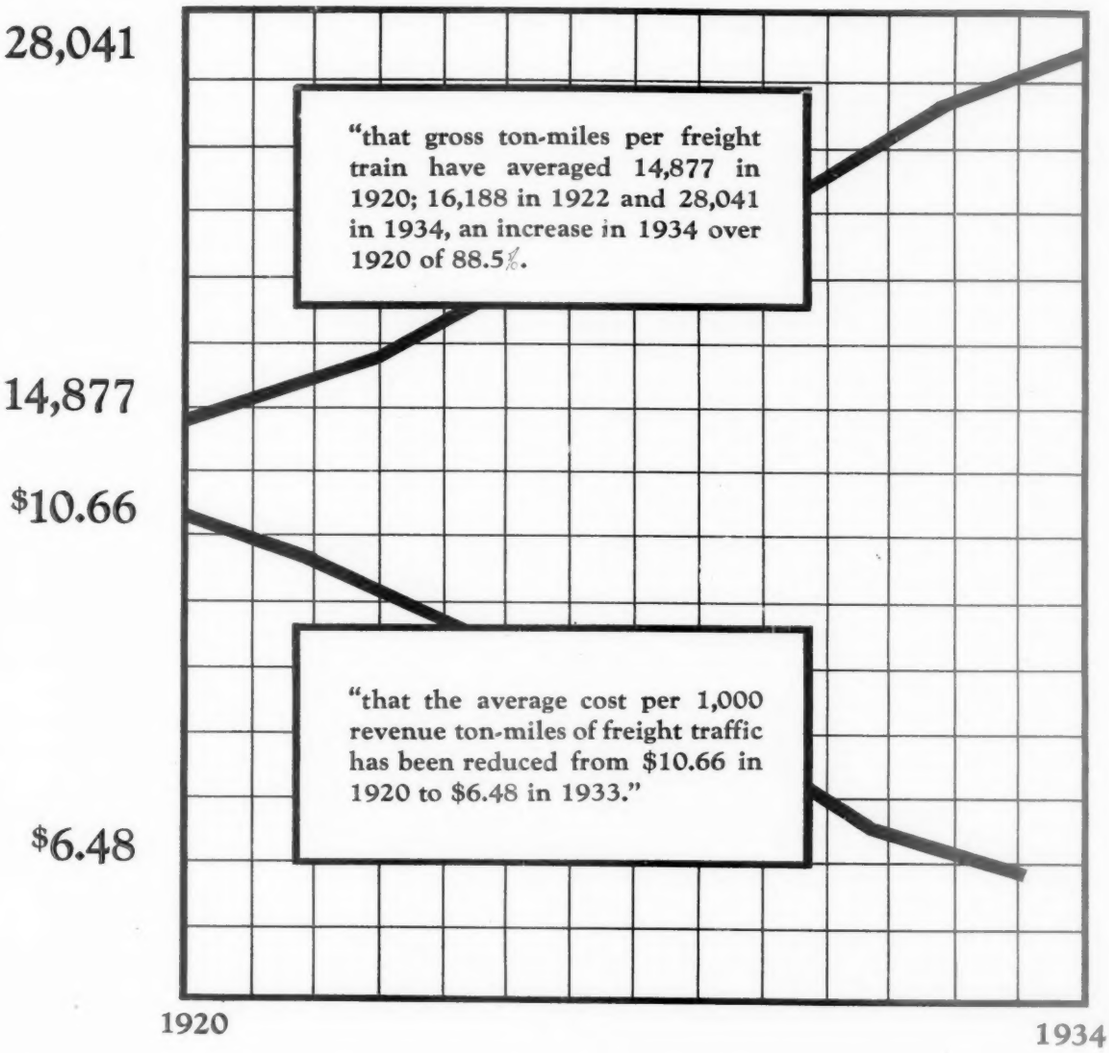
*THE RECORD SHOWS . . .

Output goes UP . . . Costs go DOWN


28,041
14,877
$10.66
$6.48
"that gross ton-miles per freight train have averaged 14,877 in 1920; 16,188 in 1922 and 28,041 in 1934, an increase in 1934 over 1920 of 88.5%.
"that the average cost per 1,000 revenue ton-miles of freight traffic has been reduced from $10.66 in 1920 to $6.48 in 1933."
1920
1934

Modern Locomotives made this record possible.

*L. W. Wallace, Director of Equipment Research; Association of American Railroads, before the Pittsburgh Railway Club.

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

switching engines, it was announced by J. W. Smith, vice-president and general manager. The signing of the agreement ended a dispute commenced last August when officials of the union demanded that firemen be employed as "helpers" in the cabs of the Diesel-propelled units, and that the road agree to employ firemen on all Diesel units which may be developed (or purchased) in the future. The Boston & Maine agreed last February to place firemen as helpers on its streamlined train and on its Diesel locomotives in passenger service, but declined to agree as regards future Diesel units. The agreement signed May 26 contained a proviso that the "management agrees to become a party to a regional or national concerted movement if and when inaugurated by the Brotherhood of Locomotive Firemen & Enginemen for the purpose of securing firemen as helpers on that type of power in switching service."

Officers of the Maine Central railroad stated that that road had signed an agreement with the B. of L. F. & E. similar to that signed by the Boston & Maine. It affects only the streamlined "Flying Yankee" and a Diesel power unit operating between Bangor, Me., and Vanceboro on Maine Central lines.

Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of February, 1936, now in preparation for the printer, will show:

Item	Month of February 1936	1935	2 months ended with February 1936	1935
Number of train accidents	1,046	581	1,864	1,223
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	167	153	302	292
Injured	155	188	323	374
Passengers on trains:				
(a) In train accidents*				
Killed	1	..	2	..
Injured	63	85	145	195
(b) In train-service accidents				
Killed	..	1	..	4
Injured	122	110	261	267
Travelers not on trains:				
Killed	1	..	3	1
Injured	91	56	163	136
Employees on duty:				
Killed	71	47	137	106
Injured	1,998	1,290	3,867	2,756
All other nontrespassers:**				
Killed	140	122	302	252
Injured	616	564	1,343	1,193
Total—All classes of persons:				
Killed	380	323	746	655
Injured	3,045	2,293	6,102	4,921

* Train accidents are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were a follows:

Number of accidents	389	350	833	727
Persons:				
Killed	130	110	294	234
Injured	453	443	996	913

Fourth Section Relief Recommended on Cotton from Southwest

Examiner Cheseldine, of the Interstate Commerce Commission, has recommended in a proposed report that the commission authorize the railroads to establish still further reduced rates on cotton in carloads, minimum 65,000 pounds, from points in the Southwest to New England ports without observing the long-and-short-haul provision of Section 4 of the interstate commerce act, to meet water competition via Gulf ports. Finding that flexible relief should be granted, to save the rail lines from possible loss of traffic during the time which would be required to obtain authority to meet any further reduction in the rates of the water lines, the examiner recommends a condition that the relief granted shall not apply to rates from the Little Rock and Memphis groups which are less than 110 per cent of the aggregate of the rail rates to the Gulf ports, the current established rates of the regulated water lines from the Gulf ports to the New England ports, plus 2.5 cents for port terminal, insurance, and other incidental charges.

Scott M. Loftin Appointed Senator from Florida

Scott M. Loftin, co-receiver for the Florida East Coast, with headquarters at Jacksonville, Fla., and St. Augustine, has been appointed United States Senator from Florida to fill the unexpired term of the late Park Trammell. Mr. Loftin was born on September 14, 1878, at Montgomery, Ala., and attended Washington and Lee University. He entered railway service on November 23, 1917, as assistant general solicitor for the Florida East Coast and in August, 1918, he became general solicitor. From July, 1921, to March, 1922, he served as general counsel and on the latter date he became vice-president and general counsel. Mr. Loftin was appointed co-receiver for the Florida East Coast on September 1, 1931. He is a former president of the American Bar Association.

Acme
Scott M. Loftin

A Million Miles of "Zephyrs" on the C. B. & Q.

One million miles of Diesel-powered "Zephyr" service on the Chicago, Burlington & Quincy were completed on May 27, and the achievement was celebrated at a luncheon of the Chicago Association of Commerce on that day. The actual millionth mile was run by one of the "Twin Zephyrs" operating between Chicago and the Twin Cities near Savanna, Ill., at 12:55 p. m. while the luncheon was in session at Chicago. Through a National Broadcasting Company radio hook-up the sound of the train as it set off torpedoes and ran through a 21-ft. hoop of paper were transmitted to the luncheon gathering at Chicago. Speakers at the luncheon were H. L. Hamilton, president of the Electro-Motive Corporation; Edward G. Budd, president of the Edward G. Budd Manufacturing Company; Ralph Budd, president of the Burlington, and Charles F. Kettering, president of General Motors Research Corporation. The celebration was climaxed by a motion picture showing the train passing through the hoop of paper at Savanna.

Annual Meeting of the Western Railway Club

The fifty-second annual dinner and meeting of the Western Railway Club was held at the Hotel Sherman, Chicago, Monday evening, May 25, about 750 members and guests being in attendance. The feature of the evening was an address by C. N. Wright, lawyer, stock man, former bank president, humorist and philosopher from Scotts Bluff, Nebr. Interspersed in an address notable for humorous allusions and anecdotes, Mr. Wright wove a thread of homely philosophy in which his principal plea was for a return to the sound principles of private business and government conduct under which this country obtained its present commanding position among the nations. Admitting that many instances may be cited of unscrupulous manipulation in every American industry, including that of railroading, Mr. Wright pointed out the folly of "burning down the barn to kill the rats." In a spirited defense of the right of individual men and companies to work for private profit, he said that, in the last analysis, property rights will be found so closely allied with human rights as to be practically inseparable.

At a brief business session preceding the main address, reports were presented showing an unusually healthy condition of the Western Railway Club both as to financial standing and membership. In the preceding twelve months a total membership loss of 289 was sustained due to deaths, resignation and the dropping of members. During the year, 307 new members were secured, bringing the total membership up to 1,395, as of May 15, 1936. Officers elected for the coming year included president, D. C. Curtis, chief of purchases and stores, Chicago, Milwaukee, St. Paul & Pacific; first vice-president, F. G. Gurley, assistant vice-president, Chicago, Burlington & Quincy; second vice-president, E. M. Wilcox, superintendent of equipment, Indiana Harbor Belt; secretary, C. L. Emberson, division master mechanic, Chicago, Milwaukee, St. Paul & Pacific; treasurer, J. W. Fogg, MacLean-Fogg Lock Nut Company, Chicago.

Lee Robinson, assistant to the superintendent of motive power, Illinois Central, who served as president of the Western Railway Club during the past year and presided at the annual meeting, was automatically retired to membership on the board of directors, the other members of which include J. E. Buker, Vapor Car Heating Company; L. R. Wink, Chicago & North Western; E. E. Thulin, Duff-Norton Manufacturing Company; C. L. Mellor, Barco Manufacturing Company;

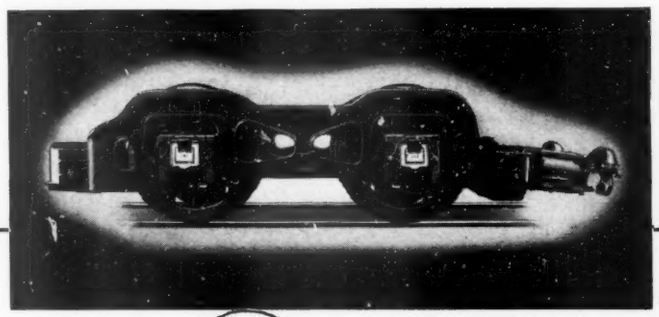
Continued on next left-hand page

FOR MAXIMUM ECONOMY AND EFFECTIVENESS

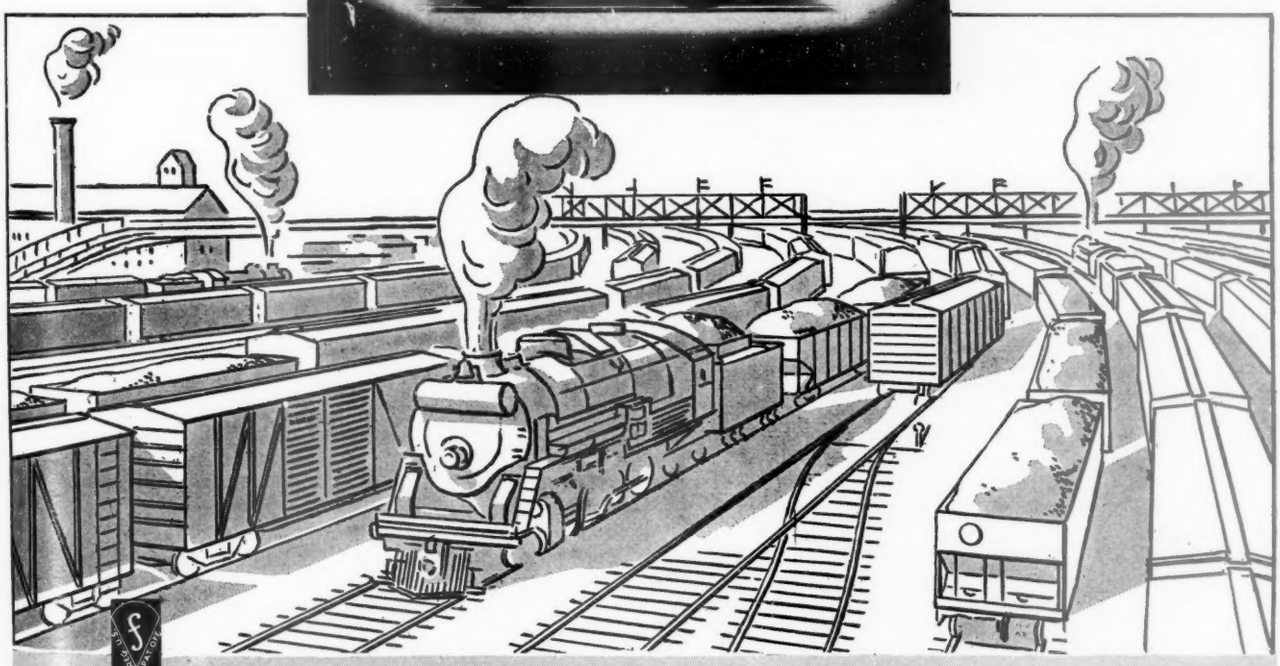
The Locomotive Booster is Essential

The Locomotive Booster is an integral part of any locomotive design, which enables maximum road capacity without the necessity of carrying and maintaining an excess of dead weight. It capitalizes idle weight and spare steam by using it to provide additional tractive effort for starting, accelerating and over the "tight places."

This added tractive effort of The Booster permits smaller main cylinders and lower piston thrusts. It reduces the stresses throughout motion work and frames. The result is a locomotive that costs much less to maintain and operate.



All replacement parts furnished by Franklin Railway Supply Company are identical as to materials, design, clearances and workmanship with the parts they replace. They guarantee the same unfailing reliability of service.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

H. P. Allstrand, Chicago & North Western; C. T. Ripley, Atchison, Topeka & Santa Fe; G. F. Slaughter, American Steel Foundries; P. J. Colligan, Chicago, Rock Island & Pacific; O. E. Ward, Chicago, Burlington & Quincy; A. N. Williams, Chicago & Western Indiana, and J. L. McKee, Indiana Harbor Belt.

C. P. R. Defends Right to Build into Rouyn

The Canadian Pacific has been seeking authority to build a branch line into the Rouyn mining center of Northern Quebec which is served by the Canadian National and a subsidiary of the Ontario province-owned railway, the Temiskaming & Northern Ontario. For this effort to extend its lines the C. P. R. has been the target of political criticism in Parliament at Ottawa and to this criticism Vice-President D. C. Coleman of the C. P. R. has replied in part as follows:

"The discussion of the proposed railway developments in Northern Quebec up to the present has been productive of more heat than light. A calm review of the situation might compose the minds of some who are investing it with sinister possibilities. When the Noranda Mine reached the stage of assured production, the only railway company which had charter rights to serve the immediate territory was the Canadian Pacific through its ownership of the Inter-Provincial & James Bay Railway which had been projected as a colonization road with the assistance of the Province of Quebec. The Canadian National immediately undertook to serve the district by building a branch line off the National Transcontinental. This branch line afforded a very round-about route to Montreal and other commercial centres in the province, but, as it could be constructed quickly, it was regarded as sufficient for the time being, and the Quebec Government supported the building of it.

"The Ontario Government, as owner of the T. & N. O. Railway, was not satisfied and proceeded to apply for authority to extend its Kirkland Lake branch into the new mining field in order to provide reasonably convenient access to Toronto. A bitter conflict between the two systems then developed and was only settled after recourse to the courts. As the interests of the two provinces were thus brought into conflict, the Canadian Pacific elected to remain out of the fray and did not proceed with the extension of its line from Angliers. The result was that two railway lines were built into Rouyn, one owned by the Government of Canada and the other owned by the Province of Ontario. Those who are so ready to ascribe all railway quarrels to the aggressiveness of privately-owned systems might well recall that this battle for territory was between two simon-pure publicly-owned utilities.

"During the years which have since intervened, the Canadian Pacific has made no move to build from Angliers, but a subsidiary company, the Consolidated Mining and Smelting Company, has interested itself in the exploration of the mineral resources east of Rouyn and also north of the line of the Canadian National in the Bell River and Chibougamau areas.

"While these areas have been gradually developed the Government of Quebec has been actively promoting the settlement of the agricultural lands between Angliers and Rouyn. It is estimated that in this particular district there is now a farming population of over 5,000. Notice was given that at the present session of the Quebec Legislature a railway charter would be sought which would have the effect of blanketing the whole mining area between Mont Laurier and Chibougamau and which would prevent any future construction of Canadian Pacific lines into a territory which, through the Consolidated Company, it had materially helped to develop. That action forced the Canadian Pacific to take measures to protect its future interest."

Crossing Accident at Byron, Georgia

The Interstate Commerce Commission has issued the report of W. J. Patterson, director of the Bureau of Safety, on the derailment of a passenger train by a bus on the Central of Georgia, at Byron, Ga., on March 28, when 10 passengers on the bus, and its driver, were killed or fatally injured, and two other passengers were less severely hurt. The accident occurred at 8:46 p.m. in clear weather and, although there were a number of witnesses nearby, the report can give no useful details of the cause or causes.

Westbound passenger train No. 93, moving at high speed, struck a bus of "Southern Stages, Incorporated," at Main street crossing, a short distance west of the Byron station, and pushed the wreckage of the bus along the track about 480 ft.; the damage to the locomotive and cars of the train being comparatively slight, although all were derailed. The engineman had a good view from a point about 1,000 ft. east of the point of collision, and the view from the crossing eastward is good, making the neglect of the bus driver inexplicable. The crossing has a flashing-light signal and also a bell, both of which were in proper operation. The control circuit to these crossing signals extends 2,797 ft. east of the crossing. There are several whistling posts for this and other crossings, and the locomotive whistle was properly sounded. The crossing and surroundings are well lighted by street lights hung 18 ft. above the ground and equipped with shades.

The bus had just crossed the track northbound, stopped at a filling station, backed around a Y, a short distance, and was proceeding slowly southward when struck. The telegrapher at the station nearby was outside his office and had seen the danger of the bus in time to wave his handkerchief as a stop signal, but his motion was not heeded. A boy riding in the bus had seen the telegrapher waving his handkerchief. This boy, who died a short time afterward, also said that he heard no one in the bus give any warning to the driver.

The driver was one of experience and with a fair record, and there was no suspicion of intoxication. The rules of the bus company require drivers to stop at all railroad crossings. The summary at the end of this report holds that the bus driver could have had no possible reason for not seeing and hearing the approach of the passenger train. It also holds that the locomotive engineman should have seen the bus much earlier than actually was the case; that is to say, he might have considerably reduced the speed of his train.

The maximum lawful speed for trains within the town of Byron is 20 miles an hour, but it appears that no attention has been paid to this rule, and the railroad company had allowed the former limit of 8 miles an hour to stand in the time table; but no trainman had at any time been censured for not observing the speed limit. One conductor thought that the limit still was 8 miles an hour, but he and other trainmen said that no limit had been enforced.

The report cites certain comparisons with the bus accident at Rockville, Md., on April 11, 1935 (*Railway Age*, June 1, 1935, page 866), and observes that it is unfortunate that these stories of failure have to be repeated again and again.

Conclusion. The primary cause is held to be the failure of the bus driver to stop, as required by law and by his rules; and contributing causes the failure of local authorities to enforce the speed ordinance and the failure of the railway company to require its employees to observe this ordinance. Four recommendations are made: (1) That responsible authorities enforce the law requiring motor buses to stop at crossings; (2) that responsible authorities enforce ordinances restricting the speed of railroad trains; (3) that unless train speeds are held to a low rate, continuous crossing protection should be provided permanently at this point; (4) that, whenever practicable, buses should be routed so as to avoid grade crossings which are not protected.

This last recommendation relates to a recent reconstruction of highways which would have permitted the adoption of safer practice in the movement of buses.

Construction

DELAWARE, LACKAWANNA & WESTERN.—The New York Public Service Commission has amended its previous order for the elimination of the Groveland, N. Y., crossing of this road. The elimination is to be accomplished by lowering the grade of the highway and carrying it under the tracks. The railroad company was directed to prepare the plans and specifications and perform all of the work authorized. A hearing will be held on June 9 to consider the inclusion of five grade crossings of this road at Avoca, N. Y., in the commission's 1936 elimination program. The estimated cost of the elimination of these five crossings is $200,000 and the necessary funds are available.

SOUTHERN PACIFIC.—A contract has been awarded to the Morrison-Knudson Company, Inc., for excavation in connection with channel and grade changes and the construction of a roadbed between Caliente, Cal., and Ilmon. The contract involves the handling of about 203,000 cubic yards of excavation at a cost of approximately $120,000.

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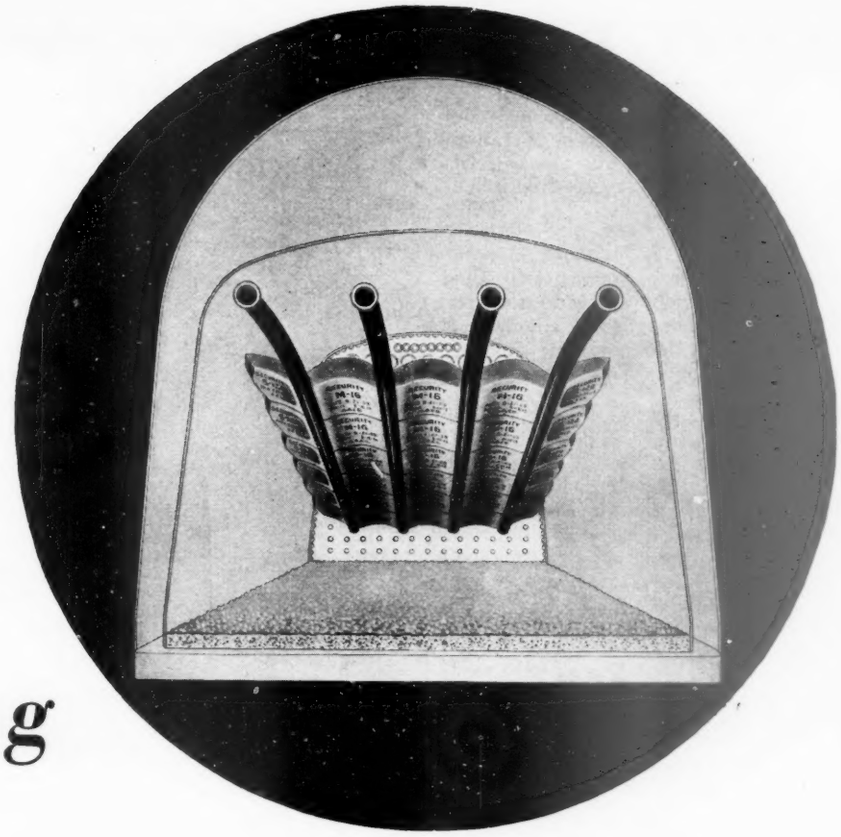

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The splendid service from the smooth-running motor in your car is best appreciated when you see the grief a balky motor can create.

So, too, with Arch Brick. The smooth functioning service The American Arch Company renders is accepted as a matter-of-course.

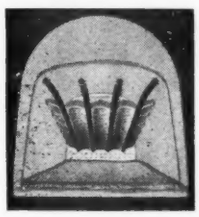
But many elements, exclusive with the American Arch Company, are responsible for this service. The railroad background; the combustion knowledge; the years of arch brick study and brick arch design; the gradual perfection of a service of supply.

All these contribute to an Arch brick service that makes for brick arch economy and reliability of performance.

There's More To SECURITY ARCHES *Than Just Brick*

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

Supply Trade

C. E. Murphy has been appointed sales representative of the **Fansteel Metallurgical Corporation,** North Chicago, Ill., with headquarters at 415 Midland Building, Cleveland, Ohio.

M. W. Smith, who has been in charge of the design of large rotating alternating current machinery of the generator division of the **Westinghouse Electric & Manufacturing Company,** has been appointed manager of engineering.

Russell D. John has been appointed eastern sales manager with headquarters at 50 Church street, New York, of **The Adams & Westlake Company**, Elkhart, Ind., and **E. H. Leisch** has been appointed district sales manager with headquarters at its Chicago office.

Following the death of **W. C. Peyton,** president of the **Standard Stoker Company, Inc.,** as reported in the *Railway Age* of April 11, the following were elected officers of the company: **H. H. Wehrhane,** president; **R. E. Coulson,** vice-president; **F. P. Roesch,** vice-president; **E. A. Turner,** vice-president; **W. D. Gray,** secretary; **B. Peyton,** treasurer.

Forrest H. Ramage, assistant manager of the advertising and sales promotion division of the **Republic Steel Corporation,** Cleveland, Ohio, has been promoted to sales promotion manager, and will work in conjunction with the new product development division. **Stanley A. Knisely,** formerly manager of the advertising and sales promotion division, has been appointed director of advertising, with direct supervision of all advertising of the corporation and its subsidiaries. **Chester W. Ruth** has been made assistant director of advertising.

OBITUARY

Cecil Martin, treasurer of the Worden Allen Steel Company, Milwaukee, Wis., died suddenly at River Forest, Ill., on May 25.

TRADE PUBLICATION

AMERICAN LARSON ROOF VENTILATOR.—The American Larson Ventilating Company, Pittsburgh, Pa., has issued a 16-page booklet which comprises an exposition of the aerodynamic principles embodied in the suction and inlet ventilators developed and placed on the market by this company. The text outlines the principles involved and is amplified by charts, tables and line drawings of the ventilators. Included in the information given are tables of dimensions and a statement covering the influence of the type of roof construction, non-technical estimating requirements, etc. These cover the application of this equipment to shops, warehouses and other types of structures to which the ventilators have been found applicable.

Equipment and Supplies

FREIGHT CARS

THE PERE MARQUETTE order for 500 cars reported in the *Railway Age* of May 23 was for 100 fifty-ton steel automobile furniture cars and 400 forty-ton automobile cars from the Ralston Steel Car Company.

THE CHESAPEAKE & OHIO order for 5,400 freight cars reported in the *Railway Age* of May 23 was divided as follows:

Number	Type	Tons Capacity	Builder
1,800	Hopper	50	American Car & Foundry Co., Huntington, W. Va., shops
1,200	Hopper	50	Pullman-Standard Car Mfg. Co., Butler, Pa., shops
500	Hopper	50	Pullman-Standard Car Mfg. Co., Richmond, Va., shops
500	Gondola	50	Bethlehem Steel Company, Johnstown, Pa., shops
150	Gondola		Bethlehem Steel Company, Johnstown, Pa., shops
100	Gondola	50	Ralston Steel Car Company, Columbus, Ohio
500	Box	50	Pullman-Standard Car Mfg. Co., Richmond, Va., shops
500	Box		General American Transportation Corp., East Chicago, Ind.
150	Auto Box	50	Pullman-Standard Car Mfg. Co., Michigan City, Ind., shops

AIR CONDITIONING

THE NORFOLK & WESTERN will air condition 42 additional passenger cars at its Roanoke, Va., shops.

BALTIMORE & OHIO.—A program authorizing the air conditioning of 57 more passenger cars on this road will be well on its way to completion on June 1 when the reduced passenger fares become effective. It will give the B. & O. and its western affiliate, the Alton, 480 air-conditioned cars to meet the anticipated heavy demands of the vacation season. The system now in effect on the B. & O. uses no ice, but is entirely mechanical. It controls automatically not only the temperature of the air, but also cleans it and conditions it with proper humidity.

MISCELLANEOUS

THE DELAWARE, LACKAWANNA & WESTERN has increased from three days a week to full time the working schedule during the month of June at its Scranton, Pa., shops. This is to take care of its car and locomotive repairs.

THE CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC has placed an order with the Timken Roller Bearing Company, Canton, Ohio, for bearings and boxes to be used on the 37 new passenger cars which this road will build in its own shops at Milwaukee, Wis.

Financial

ATLANTA, BIRMINGHAM & COAST.—*Annual Report.*—The 1935 annual report of this road shows net deficit, after interest and other charges, of $75,691, as compared with net deficit of $317,564 in 1934. Selected items from the Income Statement follow:

	1935	1934	Increase or Decrease
RAILWAY OPERATING REVENUES	$3,009,163	$2,818,835	+$190,327
TOTAL OPERATING EXPENSES	2,786,622	2,855,871	−69,248
Operating ratio	92.60	101.31	+8.71
NET REVENUE FROM OPERATIONS	222,540	*37,035	+259,575
Railway tax accruals	148,608	160,277	−11,668
Railway operating income	73,285	*198,461	+271,747
Net rents—Dr.	156,579	137,811	+18,767
NET RAILWAY OPERATING INCOME	*83,293	*336,273	+252,979
Non-operating income	32,858	33,494	−635
GROSS INCOME	*50,438	*302,779	+252,344
Rent for leased roads	50	50	.....
Interest on funded debt	1,591	1,830	−239
TOTAL DEDUCTIONS FROM GROSS INCOME	25,256	14,785	+10,471
NET INCOME	*$75,691	*$317,564	+$241,872

* Deficit.

CHESAPEAKE & OHIO.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority for an issue of $9,530,000 of 2½ per cent equipment trust certificates, in connection with the acquisition of equipment to the amount of $11,912,500, including 3,500 hopper cars, 750 gondola cars, 1,000 steel box cars, and 150 automobile cars.

CHICAGO & WESTERN INDIANA.—*Bonds.*—Morgan Stanley & Co. and eight associated companies have offered at 102, subject to approval of the Interstate Commerce Commission, $22,727,000 of series D 4¼ per cent first and refunding mortgage sinking fund bonds of this company, due 1962. The proceeds of the issue are to be used to retire at 105 outstanding 5½ per cent bonds.

CHICAGO, ROCK ISLAND & PACIFIC.—*Reorganization Plan.*—The Federal District Court at Chicago, on May 20, took under advisement, pending receipt by the court of the formal statement of the position of the bondholders' protective committee, a motion to extend the deadline from June 1 to July 15 for filing a reorganization plan for the Rock Island. The extension sought provides that if the railroad does not file its plan by July 15 then the trustees may file their own plan by August 27.

Judge Wilkerson on May 26 extended the "deadline" for the filing of a plan by the trustees from July 15 to August 27.

CHICAGO & EASTERN ILLINOIS.—*Annual Report.*—The 1935 annual report of this company shows net deficit, after interest and other charges, of $1,470,247, as compared with net deficit of $1,494,200 in

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THE SUPERHEATER COMPANY

NEW YORK CHICAGO

USE GENUINE ELESCO REPLACEMENT PARTS FOR ELESCO EQUIPMENT

correct design · correct material
accurate manufacture

NEW YORK
60 East 42nd St.

MONTREAL
The Superheater Co., Ltd.
Dominion Square Bldg.

CHICAGO
Peoples Gas Bldg.

REPRESENTATIVE OF AMERICAN THROTTLE COMPANY, INC.

1934. Selected items from the Income Account follow:

	1935	1934	Increase or Decrease
Average Mileage Operated	938.26	938.89	-0.63
RAILWAY OPERATING REVENUES	$13,431,903	$12,776,550	+$655,353
Maintenance of way	1,656,140	1,576,796	+79,344
Maintenance of equipment	2,278,902	1,961,683	+317,219
Transportation—Rail	5,386,162	5,084,030	+302,132
TOTAL OPERATING EXPENSES	10,627,132	9,945,373	+681,758
Operating ratio	79.12	77.84	+1.28
NET REVENUE FROM OPERATIONS	2,804,771	2,831,176	-26,405
Railway tax accruals	640,000	685,000	-45,000
Railway operating income	2,160,459	2,141,488	+18,971
Equipment rents—Net Dr.	832,204	854,116	-21,911
Joint facility rents—Net Dr.	705,501	645,674	+59,826
NET RAILWAY OPERATING INCOME	622,753	641,697	-18,943
Non-operating income	180,926	148,267	+32,659
GROSS INCOME	803,680	789,964	+13,715
Rent for leased roads	154,624	154,624	.....
Interest on funded debt	1,626,117	1,736,020	-109,902
TOTAL DEDUCTIONS FROM GROSS INCOME	2,273,927	2,284,165	-10,237
NET INCOME*	$1,470,247	$1,494,200	+$23,950

* Deficit.

DENVER & RIO GRANDE WESTERN.—*Salary of Trustees.*—The Interstate Commerce Commission has fixed $12,000 each per annum as the maximum salary of Wilson McCarthy and Henry Swan, trustees of this property. A salary of $18,000 has been authorized for Henry McAllister, counsel to the trustees. In fixing these maxima, the commission pointed out that Mr. McCarthy also receives a salary of $20,000 as president of the Denver & Salt Lake.

ERIE.—*R.F.C. Loan.*—The Interstate Commerce Commission has authorized the extension for three years from May 31 of a loan of $2,775,000 from the Reconstruction Finance Corporation to this company.

GULF COAST LINES.—*Annual Report.*—The annual report of the Gulf Coast Lines for 1935 shows net deficit, after interest and other charges, of $2,374,304, as compared with net deficit of $1,760,845 in 1934. Selected items from the consolidated income account follow:

	1935	1934	Increase or Decrease
Average Mileage Operated	1,763.19	1,763.94	-.45
RAILWAY OPERATING REVENUES	$9,842,816	$9,834,123	+$8,693
Maintenance of way	1,596,963	1,532,747	+64,216
Maintenance of equipment	1,956,142	1,766,915	+189,226
Transportation	3,493,274	2,989,722	+503,552
TOTAL OPERATING EXPENSES	8,034,150	7,400,449	+633,701
Operating ratio	81.62	75.25	+6.37
NET REVENUE FROM OPERATIONS	1,808,665	2,433,673	-625,007
Railway tax accruals	556,027	529,350	+26,677
Railway operating income	1,243,330	1,888,720	-645,389
Net rents	978,531	988,644	-10,113
NET RAILWAY OPERATING INCOME	264,799	900,075	-635,276
Non-operating income	90,336	84,884	+5,452
TOTAL INCOME	355,136	984,960	-629,824
Rent for leased roads	.....	272	-272
Interest on funded debt	2,724,805	2,735,645	-10,839
TOTAL FIXED CHARGES	2,726,109	2,736,445	-10,336
NET INCOME*	$2,374,304	$1,760,845	-$613,459

* Deficit.

MANISTEE & REPTON.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its line extending from a point one mile south of Monroeville, Ala., to Frisco City, approximately 9 miles; and a branch line between Allene and Excel, 3 miles.

MINNEAPOLIS & ST. LOUIS.—*Senate Committee Investigation.*—A sub-committee of the Senate committee on interstate commerce headed by Senator Shipstead is continuing its hearings begun on May 13 on a resolution proposed by Senator Benson, of Minnesota, calling for a senatorial investigation of the proposed sale of parts of this company's line to the Associated Railways. The hearing is being handled by the sub-committee as an investigation for the purpose of a recommendation as to whether there shall be another investigation by a Senate committee to take the place of the investigation which was being conducted by the Interstate Commerce Commission on an application by the Associated Railways for the necessary authority to carry out the transaction. Most of the witnesses who have been heard have opposed the transaction. On May 25 James McElwee, of Peoria, Ill., testified before the sub-committee that J. W. Barriger, head of the railroad division of the Reconstruction Finance Corporation, had told him that the plan had been devised in an effort to protect the interests of his friend, F. H. Prince, Boston banker, and that he had "sold" the idea to Jesse Jones, chairman of the R.F.C. Mr. Barriger denied the statement to newspaper men but was to be called as a witness.

Our Killer, the Highway Truck

Trucks have a place on the highway, but not the place they now occupy. If trucks had to obey proper safety regulations, including short hours for drivers, safe loading (no overweight), proper inspection of brakes, wheels and driving mechanism, and size limits fixed with regard to traffic as a whole, thousands of accidents would be avoided. They would be avoided because heavy long-distance freight would go off the highways onto the railroads, where it belongs, and the trucks remaining on the highways would be safer in themselves and more safely driven.

What a monstrosity to forbid railroad men to work long hours, because of the recognized hazard of sleepiness, and then let truck drivers, half dead from overwork, thunder over our highways guiding five-ton projectiles of solid steel, not bound to a fixed track, as trains are, but capable of snuffing out human life by the slightest deviation of the steering wheel. Not only capable of it, but doing so on so vast a scale that the highway truck in the United States is more deadly than artillery in a war.

—From an editorial in the St. Louis Star-Times.

MINNEAPOLIS, ST. PAUL & SAULTE STE. MARIE.—*Notes.*—This company has applied to the Interstate Commerce Commission for authority to extend to February 1, 1938, the maturity date of $5,000,000 of 6 per cent secured notes which originally matured on August 1, 1934, but which were extended to August 1, 1936. It is proposed to reduce the interest rate to 5 per cent.

MISSOURI PACIFIC.—*Recovery Suit.*—Charges that the Missouri Pacific paid $3,200,000 to the Alleghany Corporation for terminal properties it never received, without knowledge of the railroad's stockholders, were contained in a suit filed in the federal court at Cleveland, Ohio, on May 21, by Guy A. Thompson, acting trustee in bankruptcy for the railroad. The suit charges that the Alleghany Corporation used the railroad as a "puppet" to recover losses on other enterprises. The suit was filed against O. P. Van Sweringen and four other directors of Alleghany on grounds that the railroad's directors agreed to purchase worthless properties of Terminal Shares, Inc., subsidiary of Alleghany. It also charged that minutes of the meeting at which the railroad's board agreed to the transaction never were submitted to stockholders, although payments to Alleghany were made quarterly over a period of a year and a half. The deal allegedly was completed by means of interlocking directorates of the three corporations.

NEW YORK CENTRAL.—*New Director.*—George Whitney, a partner of J. P. Morgan & Co., has been elected to the directorate of this company, succeeding George F. Baker, retired.

NEW YORK CENTRAL.—*Operation of North Brookfield.*—The Interstate Commerce Commission has authorized this company and the Boston & Albany to operate the properties of the North Brookfield (owned largely by the Massachusetts town of that name) under a contractual arrangement between the owners of this 4.2-mile line and the B. & A., whereby the line is to be continued in operation for a limited period in freight service only, rent free to the operating company.

ST. LOUIS-SAN FRANCISCO.—*Abandonment.*—The trustees have applied to the Interstate Commerce Commission for au-

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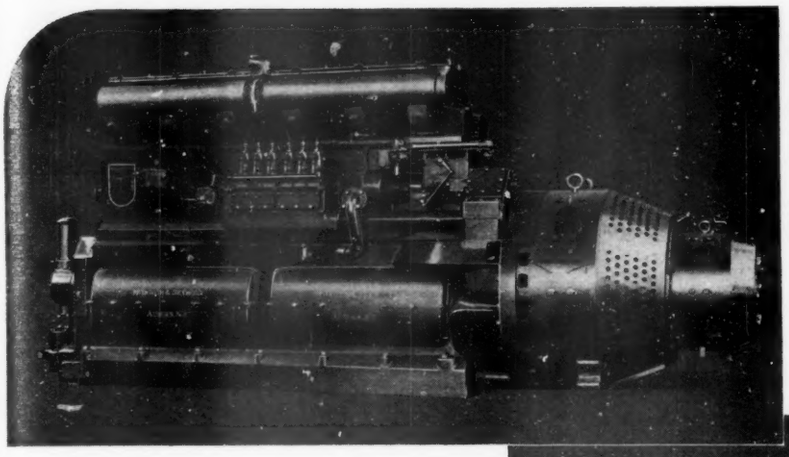

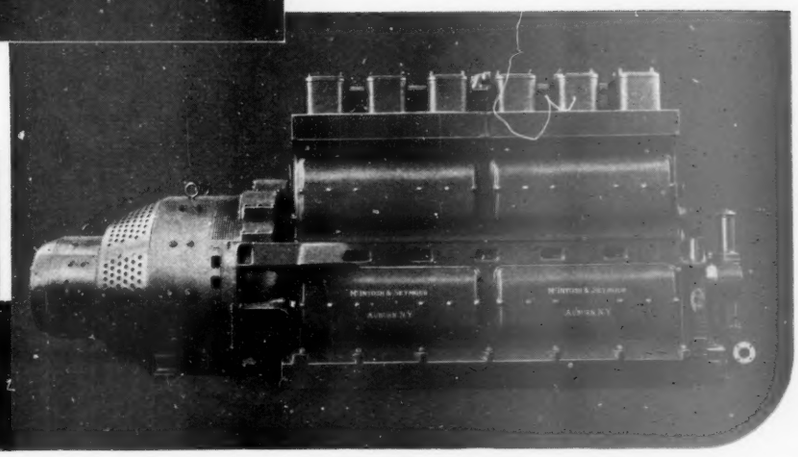

Proved

ALCO TYPE RAILWAY DIESEL ENGINE

THE name "ALCO", when used as a type classification, means much more than designed and/or built by the American Locomotive Company . . . . It means that the unit so characterized, through a reasonable time and over breadth of territory, has been *proved* in the particular service for which it is recommended.

The **ALCO TYPE RAILWAY DIESEL ENGINE** was so designed in June, 1930 . . . . Installations on 14 different railroads have conclusively verified the general utility of this engine for switching service—the particular service for which this engine was originally designed, built, and is still recommended. Write for booklet on ALCO Diesels . . . .

ALCO

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH ST., NEW YORK, N.Y.

thority to abandon branch lines from Fayette Junction, Ark., to Pettigrew, 40.9 miles, and from Gravatte, Ark., to Grove, Oklahoma, 23.2 miles.

ST. LOUIS SOUTHWESTERN.—*Annual Report.*—The 1935 annual report of this company shows net deficit, after interest and other charges, of $455,195, as compared with net deficit of $1,145,436 in 1934. Selected items from the Income Statement follow:

	1935	1934	Increase or Decrease
Average Mileage Operated	1,788.90	1,827.37	-38.47
RAILWAY OPERATING REVENUES	$15,742,227	$14,125,660	+$1,616,567
Maintenance of way	1,733,466	1,507,456	+226,009
Maintenance of equipment	2,154,520	2,034,065	+120,455
Transportation	5,175,576	4,717,390	+458,186
TOTAL OPERATING EXPENSES	10,735,733	9,891,149	+844,584
Operating ratio	68.20	70.02	-1.82
NET REVENUE FROM OPERATIONS	5,006,494	4,234,511	+771,982
Railway tax accruals	849,662	832,250	-17,412
Railway operating income	4,152,088	3,393,392	+758,695
Net rents—Dr.	1,507,769	1,434,747	+73,022
NET RAILWAY OPERATING INCOME	2,644,318	1,958,645	+685,673
Non-operating income	78,595	86,936	-8,341
GROSS INCOME	2,722,914	2,045,582	+677,332
Interest on funded debt	3,119,754	3,142,602	-22,847
TOTAL FIXED CHARGES	3,150,306	3,170,327	-20,021
NET DEFICIT	$455,195	$1,145,436	-$690,241

SOUTHERN PACIFIC.—*Acquisition.*—The Interstate Commerce Commission has authorized this company to acquire control by stock ownership of the Interurban Electric Railway (which will operate electric passenger service between San Francisco, Calif., and Alameda, Albany, Berkeley, Emeryville and Oakland via the new bridge across San Francisco bay, taking over electric lines heretofore operated by the S. P.).

SUNCOOK VALLEY.—*Trackage Rights.*—The Interstate Commerce Commission has authorized this company to operate under trackage rights over the Boston & Maine between Bow Junction, N. H., and Concord, 1.8 miles, and to lease the line of the latter company between Hooksett and Bow Junction, 6.9 miles.

WHEELING & LAKE ERIE.—*Readjustment of Capital Structure Proposed.*—Jesse H. Jones, chairman of the Reconstruction Finance Corporation, has made public a letter addressed to J. Crawford Biggs, voting trustee for certain stock of the W. & L. E. owned by the New York, Chicago & St. Louis and under pledge to the R.F.C. as security for loans to the Nickel Plate, suggesting that at the annual meeting on May 27 when a rearrangement of the company's financial structure was to be discussed the stockholders give consideration to the following:

(a) that payment be made of all back dividends on the 118,826 prior lien 7 per cent cumulative shares;

(b) that the above shares be exchanged for prior lien non-convertible non-callable 4 per cent cumulative shares, allowing the holders of the 7 per cent cumulative shares a premium of $7.50 per share instead of $15 per share, as provided as a call price for said shares;

(c) that the 102,140 6 per cent preferred non-cumulative shares be reduced to 5½ per cent and made cumulative from August 1, 1936, convertible into common shares, share for share, and callable at any time at par and accrued dividends;

(d) that the common shares remain as now constituted;

(e) that each share of whatever class have one vote on all matters upon which stockholders vote.

"This will show," he said, "an annual saving to the road on the prior lien and preferred shares of more than $400,000, does not change the relative existing positions of those interested in the road, and leaves the stock you represent in trusteeship as presently required by the Interstate Commerce Commission. Such a reorganization seems clearly in the interest of the road, takes advantage of prevailing money rates, and I am advised will be acceptable to those owning practically all of the stock."

Back Dividend.—Stockholders will be asked at a meeting on June 29 to approve action of the directors in declaring a dividend of $35 a share on the prior lien stock of the company thus eliminating all arrears in such payments. The Reconstruction Finance Corporation holds all but a small fraction of these shares as part of the collateral for a loan to the New York, Chicago & St. Louis, and will receive 98.5 per cent of the $4,160,870 dividend which will be applied to reducing the N. Y. C. & St. L. loan. Upon payment of this dividend the $11,888,200 of 7 per cent prior lien stock will be refunded by a 4 per cent non-callable issue. The 6 per cent non-cumulative preferred will be replaced by cumulative, convertible 5½ per cent stock. Thomas S. Grasselli has resigned as a director and has been replaced by C. S. Wachner, attorney of Cleveland. R. C. Shaffner of the investment house of A. G. Becker & Co., was also elected to the directorate. W. F. Nash was not re-elected. On the seven-member executive committee of the road, E. J. Kulas has succeeded Mr. Nash. The plan adopted for retirement of the 7 per cent prior lien stock is that proposed by Jesse H. Jones, chairman of the R. F. C.

Dividends Declared

Atchison, Topeka & Santa Fe.—$2.50, semi-annually, payable August 1 to holders of record June 26.

Union Pacific.—$1.50, payable July 1 to holders of record June 1.

Average Prices of Stocks and of Bonds

	May 26	Last week	Last year
Average price of 20 representative railway stocks..	47.15	45.22	32.42
Average price of 20 representative railway bonds..	79.24	78.79	73.58

Railway Officers

EXECUTIVE

C. McD. Davis, vice-president (traffic) of the Atlantic Coast Line, with headquarters at Wilmington, N. C., has been elected also vice-president of the Atlanta, Birmingham & Coast.

FINANCIAL, LEGAL AND ACCOUNTING

T. H. Simpson, assistant treasurer of the Missouri-Kansas-Texas, was elected treasurer on May 19, to succeed **F. Johnson,** who has retired at his own request. At the same time **A. M. Jacobs** was appointed assistant treasurer, to succeed Mr. Simpson. The headquarters of Mr. Simpson and Mr. Jacobs are at St. Louis, Mo.

A. E. Hancock, assistant comptroller of the Minneapolis, St. Paul & Sault Ste. Marie, the Duluth, South Shore & Atlantic and the Mineral Range, has been appointed comptroller of these roads, with headquarters as before at Minneapolis, Minn., to succeed **D. J. Bond,** who has retired because of ill-health. Additional appointments, affecting all three lines, are as follows: **J. R. Chapman,** assistant comptroller; **J. B. Donnelly,** auditor of disbursements; **F. E. Dooley,** tax accountant; **B. Newhouse,** auditor of revenues; and **Fred Hallen,** auditor of pay rolls, all with headquarters at Minneapolis. In addition, **L. E. Hodson** has been appointed assistant freight auditor of the Soo Line, with headquarters at Minneapolis, and **A. E. Delf** has been appointed auditor of the D. S. S. & A. and the Mineral Range, with headquarters at Marquette, Mich.

OPERATING

A. J. Pirrung, assistant trainmaster of the Long Island, has been appointed assistant trainmaster of the Middle division of the Pennsylvania. **W. S. Purdom,** assistant trainmaster and assistant road foreman of engines of the Toledo division of the Pennsylvania, has been appointed assistant trainmaster of the Baltimore division. **H. P. Lowry,** assistant trainmaster of the Cincinnati division, has been transferred to the Baltimore division and **R. A. Dennis,** yardmaster of the Philadelphia Terminal division, has been appointed assistant trainmaster of the Delmarva division.

Clifford S. Leet, whose appointment as assistant general manager for the Bessemer & Lake Erie, with headquarters at Pittsburgh, Pa., was noted in the *Railway Age* of May 23, was born at Conneautville, Pa. He was educated in the public schools and Allegheny College, Meadville, Pa., from which he was graduated in 1899. Mr. Leet entered railroad service on January 10, 1901, with the Erie at Meadville. From January 15, 1903, to May, 1906, he

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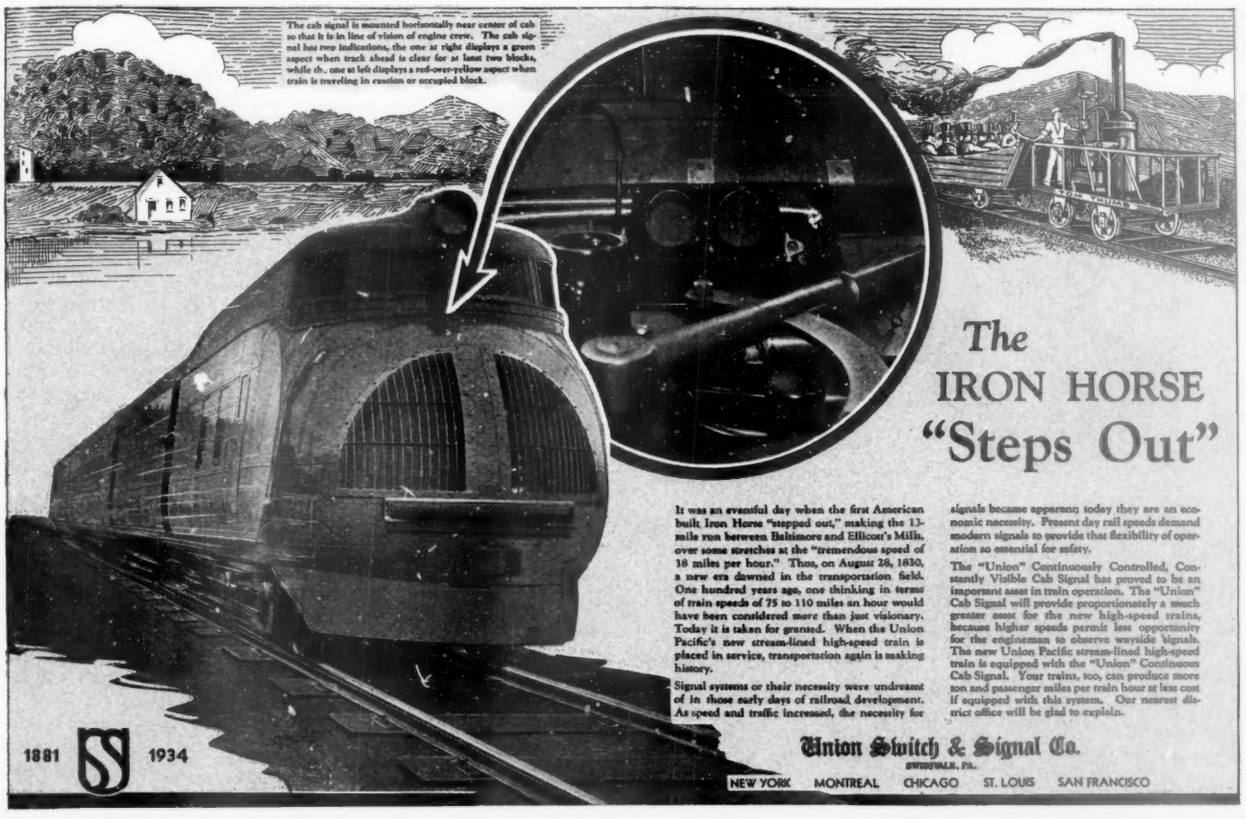
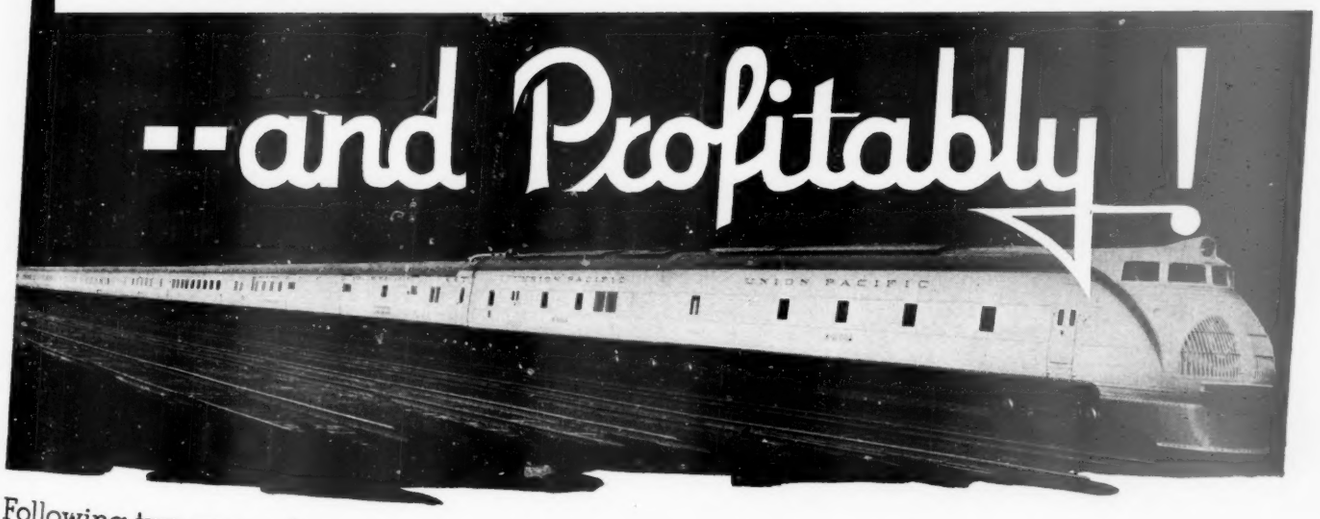

The cab signal is mounted horizontally near center of cab so that it is in line of vision of engine crew. The cab signal has two indications, the one at right displays a green aspect when track ahead is clear for at least two blocks, while th.. one at left displays a red-over-yellow aspect when train is traveling in caution or occupied block.
The IRON HORSE "Steps Out"
It was an eventful day when the first American built Iron Horse "stepped out," making the 13-mile run between Baltimore and Ellicott's Mills, over some stretches at the "tremendous speed of 18 miles per hour." Thus, on August 28, 1830, a new era dawned in the transportation field. One hundred years ago, one thinking in terms of train speeds of 75 to 110 miles an hour would have been considered more than just visionary. Today it is taken for granted. When the Union Pacific's new stream-lined high-speed train is placed in service, transportation again is making history.
Signal systems or their necessity were undreamt of in those early days of railroad development. As speed and traffic increased, the necessity for signals became apparent; today they are an economic necessity. Present day rail speeds demand modern signals to provide that flexibility of operation so essential for safety.
The "Union" Continuously Controlled, Constantly Visible Cab Signal has proved to be an important asset in train operation. The "Union" Cab Signal will provide proportionately a much greater asset for the new high-speed trains, because higher speeds permit less opportunity for the engineman to observe wayside signals. The new Union Pacific stream-lined high-speed train is equipped with the "Union" Continuous Cab Signal. Your trains, too, can produce more ton and passenger miles per train hour at less cost if equipped with this system. Our nearest district office will be glad to explain.
1881 1934
Union Switch & Signal Co.
SWISSVALE, PA.
NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO



Following two years of operating experience, the Union Pacific has ordered additional units of stream-lined, high-speed trains to augment the present service. » » » » » »

"Union" Continuous Cab Signals are again specified as standard equipment on the new trains! Cab Signals enable maintaining high-speed schedules with safety and economy.

1088

1881 Union Switch & Signal Co. 1936
SWISSVALE, PA.
NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

served as instrumentman for the Bessemer & Lake Erie and from the latter date until June, 1913, he was assistant engineer for that road. From June, 1913, to December

Clifford S. Leet

31, 1914, he was on special assignments for the B. & L. E., and on January 1, 1915, he became land agent for that road and the Union railroad, which position he held at the time of his appointment as assistant general manager.

H. A. Iuler, whose appointment as superintendent of the Ashland division of the Cheseapeake & Ohio at Ashland, Ky., was noted in the *Railway Age* of May 23, was born on November 26, 1889, at Chillicothe, Ohio. He attended business college and a summer session on transportation at the Harvard Graduate School of Business Administration. Mr. Iuler entered railroad

H. A. Iuler

service on July 1, 1906, as secretary to trainmaster of the Baltimore & Ohio at Chillicothe and in August, 1908, became clerk in the general freight office at Cincinnati, Ohio, where he served successively as secretary to the superintendent of motive power, stenographer in the general superintendent's office, and secretary to the general superintendent. On June 1, 1918, he became chief clerk to the general superintendent at Cleveland, Ohio; in November, 1919, chief clerk to federal manager at Cincinnati; and in May, 1920, chief clerk to the general manager at Cincinnati. On January 1, 1924, Mr. Iuler was appointed transportation supervisor for the Chesapeake & Ohio at Richmond, Va., and in February, 1925, he became trainmaster at Cincinnati, which position he later held t Covington, Ky. He was appointed assistant superintendent at Ronceverte, W. Va., on May 1, 1930, and in March, 1934, was transferred in the same capacity to Ashland.

TRAFFIC

J. J. McQueen, assistant general agent for the Missouri Pacific, with headquarters at Chicago, has been promoted to general agent, passenger department, with the same headquarters, effective June 1.

Harvey C. Duvall, who has specialized in the handling of organized party business for the Chicago & North Western, has been promoted to assistant general passenger agent, with headquarters in Chicago.

E. A. Montgomery, general agent at New Orleans, La., for the Louisiana & Arkansas, has been appointed assistant general freight agent and not general freight agent, as was erroneously reported in the *Railway Age* of May 23.

Morton Mann has been appointed general agent for the Union Pacific, with headquarters at Boston, Mass., to succeed **Willard Massey,** who has retired after nearly 50 years of service with this company. **P. S. Smith** has been appointed general agent at Atlanta, Ga., to replace **W. C. Elgin,** who has retired at his own request after more than 30 years of service.

O. D. Penniman, southeastern freight agent for the Mobile & Ohio, with headquarters at Atlanta, Ga., has been appointed assistant general freight agent at Birmingham, Ala., succeeding **C. P. Jackson,** deceased. **T. V. Sutton,** district freight agent at Meridian, Miss., has been appointed southeastern freight agent at Atlanta, succeeding Mr. Penniman. **O. C. McKay** has been appointed district freight agent at Meridian, succeeding Mr. Sutton.

J. A. Gorman, general freight agent of the Illinois Terminal, has been promoted to freight traffic manager, with headquarters as before at St. Louis, Mo., to fill a position that has been vacant for some time. **J. A. Jefferis,** general freight agent at St. Louis, has been appointed to the newly-created position of assistant freight traffic manager with the same headquarters. **L. C. Bundy,** division freight agent at Peoria, Ill., has been promoted to general freight agent, with headquarters also at St. Louis. **W. J. Riordan,** division freight agent at Springfield, Mo., has been appointed to the newly-created position of assistant general freight and passenger agent at Peoria, to replace Mr. Bundy and **L. A. Ebert,** local freight agent at Springfield, has been appointed general agent at that point. **W. M. Long,** assistant general freight agent at Chicago, has been appointed to the newly-created position of Northern traffic manager, with the same headquarters.

MECHANICAL

A. L. Porter, gas engine expert of the Chicago Great Western, with headquarters at Oelwein, Iowa, has been promoted to supervisor of internal combustion engines with the same headquarters. **W. L. Castleman** has been appointed assistant to the supervisor of internal combustion engines, with headquarters at Minneapolis, Minn.

E. L. Grimm, assistant to the operating vice-president of the Northern Pacific, with headquarters at St. Paul, Minn., effective June 1 will assume the duties of **Silas D. Zwight,** general mechanical superintendent, who retires on that date after 48 years' service with this company. **D. M. Driscoll,** superintendent at Missoula, Mont., has been appointed assistant to the operating vice-president at St. Paul, to succeed Mr. Grimm. **C. V. Berglund,** trainmaster at Dickinson, N. D., has been appointed assistant to the general manager at Seattle, Wash., to replace **W. W. Judson,** who has been appointed superintendent, with headquarters at Glendive, Mont. Mr. Judson replaces **G. N. Slade,** who has been transferred to Missoula, to succeed Mr. Driscoll.

Mr. Zwight was born on May 23, 1867, at La Crosse, Wis., and after a business college education he entered railway service with the Chicago, Burlington & Quincy in May, 1886, with which company he served in various capacities. In June, 1888, Mr. Zwight left the Burlington to go with the Northern Pacific as a locomotive fireman on the Dakota division. Subsequently he served successively as a locomotive engineer, road foreman of engines, master mechanic, general master mechanic, assistant to the mechanical superintendent, mechanical superintendent and acting general mechanical superintendent. In December, 1923, he was appointed general mechanical superintendent, which position he held continuously until his retirement.

OBITUARY

Major Charles A. Walker, who retired in 1918 as treasurer of the Delaware & Hudson at New York, died on May 27 at Pelham Manor, N. Y. He was 92 years old.

L. M. Allen, passenger traffic manager of the Chicago, Rock Island & Pacific, with headquarters at Chicago, died on May 26 in the Johns Hopkins Hospital, Baltimore, Md., at the age of 72 years.

John Edward Dwyer, superintendent maintenance of way, Norfolk Southern, with headquarters at Norfolk, Va., died at his home in that city on April 16 after an illness of several months. Mr. Dwyer had been with the Norfolk Southern since 1915 as superintendent maintenance of way, and prior to that time he had been connected with the roadway departments of a number of western lines, including the Colorado & Southern, the Denver & Rio Grande Western, and the Spokane, Portland & Seattle, and at one time was division superintendent of the Union Pacific lines at Cheyenne, Wyo.

Stephen E. Combs, who retired last year as special engineer in the land and tax department of the New York Central, died on May 22 in Flower Fifth Avenue Hospital, New York, after a long illness.

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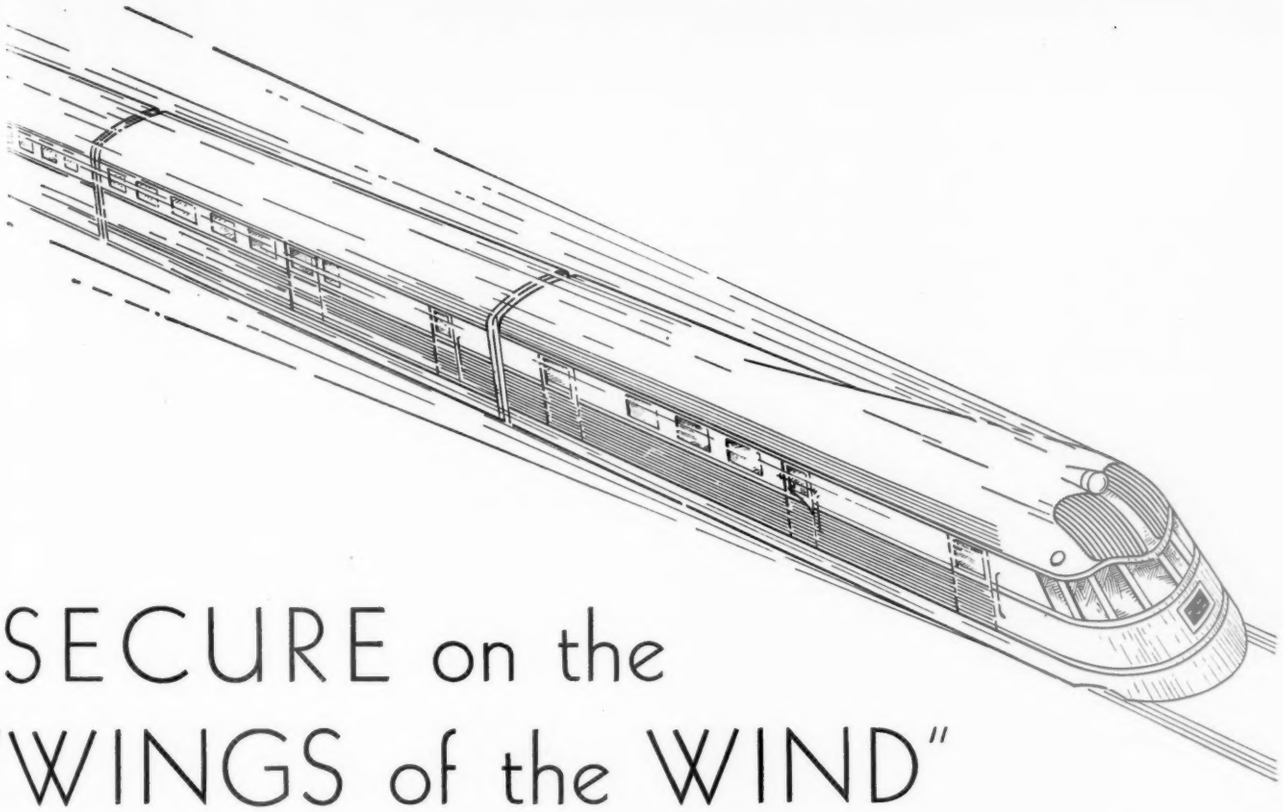


SECURE on the "WINGS of the WIND"

Swift and powerful as a gale, yet gentle and soothing as a breeze, is the transit of modern streamlined trains . . . Speed, comfort, and SAFETY are here coordinated to provide the acme in passenger transportation service . . . Deluxe travel on the "wings of the wind" is made secure by Air Brakes as modern as the vehicles that they control » » » »

The Westinghouse "HSC" Brake Equipment comprises three coordinated systems that maintain adequate and precise control at all times . . . A Primary System, which provides powerful and flexible braking by electro-pneumatic means . . . . A Secondary System, which produces pneumatic operations if electric functions are interrupted . . . An Emergency System by which high braking pressure is built up to effect the shortest possible stop, when initiated by any of the usual means, or by the Safety Control System . . . A Controller automatically governs brake cylinder pressure—if the operator fails to do this by normal brake valve manipulation—so that the highest permissible rate of retardation may be uniformly attained under all conditions, but never exceeded.

WESTINGHOUSE AIR BRAKE CO.

General Office and Works » » » » Wilmerding, Penna.

(1300)

Mr. Coombs was born on July 24, 1865, at Brunswick, Me., and received his education at Massachusetts Institute of Technology. He entered railway service in July, 1887, with the Toledo, St. Louis & Kansas City (now New York, Chicago & St. Louis) and subsequently became assistant engineer for the Missouri lines of the Chicago, Burlington & Quincy, and chief engineer for the Southern Missouri & Arkansas (now St. Louis-San Francisco). He became associated with the New York Central in 1903 and in 1916 he became special engineer to the chief engineer. Mr. Coombs became special engineer for the land and tax department in 1926.

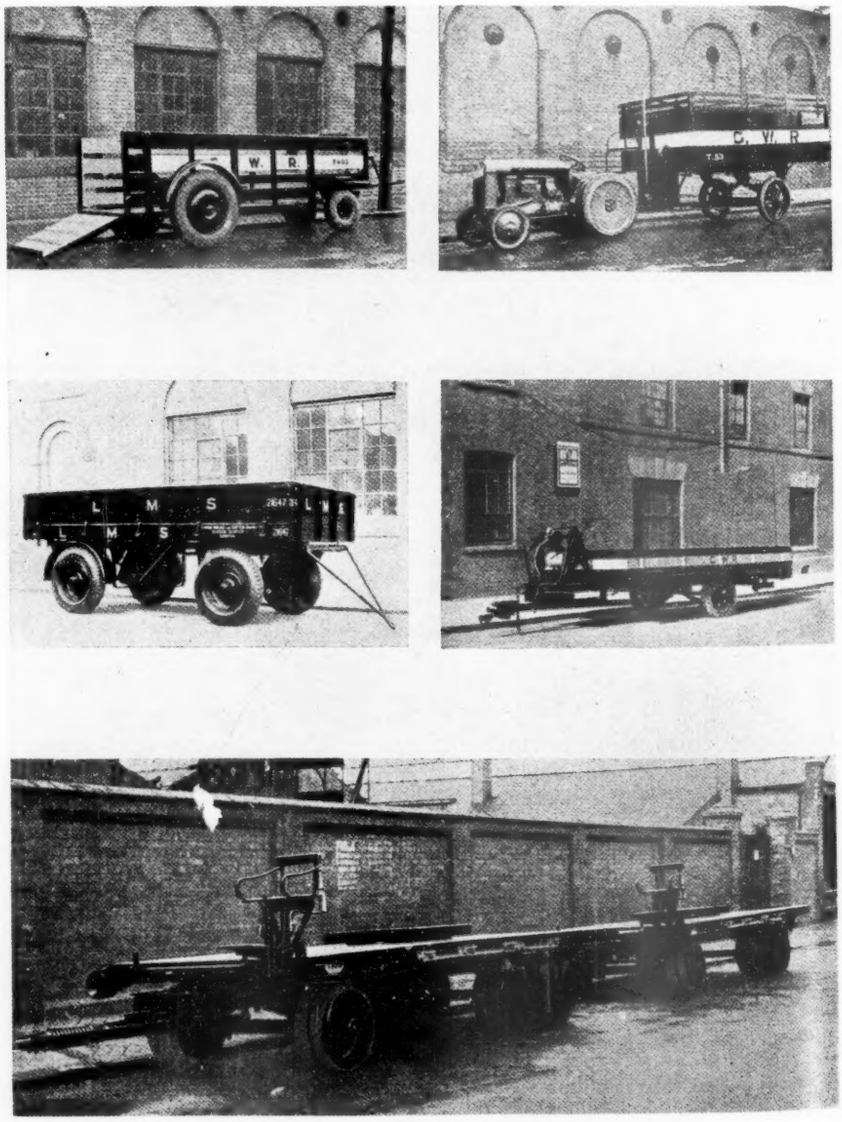
Samuel S. Riegel, mechanical engineer of the Delaware, Lackawanna & Western, with headquarters at Scranton, Pa., whose death on May 12 was noted in the *Railway Age* of May 16, was born at Stouts, Pa., on November 14, 1872. He received his early education in the schools of Bethlehem, Pa., and was graduated from Lehigh University in 1897. After his graduation from college Mr. Riegel was employed by the Southern Railway and the American Locomotive Company until January 1, 1909, when he entered the service of the Lackawanna as mechanical engineer. Mr. Riegel was active in affairs of the American Society of Mechanical Engineers and of the Mechanical division, Association of American Railroads.

Samuel S. Riegel

John H. Dunphy, general passenger agent of the Pere Marquette, with headquarters at Detroit, Mich., died by suffocation during a fire in his home on May 24. Mr. Dunphy was born on July 4, 1867, at Chicago, and entered railway service in May, 1882, with the Detroit, Lansing & Northern (now part of the Pere Marquette), serving in various clerical positions in the general ticket, accounting and treasury departments until September, 1892. From then until December, 1915, he served successively as assistant rate clerk, rate clerk, chief rate clerk and chief clerk in the passenger department of the same road, the Chicago & Western Michigan (now also part of the Pere Marquette) and the Pere Marquette, at Grand Rapids, Mich. At the end of this period Mr. Dunphy was appointed assistant general passenger agent at Detroit, and in August, 1926, he was further advanced to general passenger agent, with the same headquarters, which position he held until his death.

Shelby S. Roberts chief of the section of securities, Bureau of Finance, Interstate Commerce Commission, died on May 6 at Washington, D. C., after a brief illness. Mr. Roberts was born on April 13, 1874, at Louisville, Ky., and received his engineering education at Rose Polytechnic Institute, Terre Haute, Ind. He also attended John Marshall Law School, Chicago, and the Washington College of Law, Washington, D. C., obtaining the degree of LL.B. in 1925. Mr. Roberts entered railway service in the summer of 1898 as a track apprentice on the Illinois Central. In the following year he left this company to go with the Louisville & Nashville, where he served successively as an instrumentman and building inspector, engineer in charge of various improvements, engineer in charge of maintenance of way on various divisions, and roadmaster. In 1905 he severed his connection with the L. & N., to become superintendent of building construction for F. C. Brent at Pensacola, Fla. In the following year he returned to the Illinois Central, serving as assistant engineer and office engineer in the construction department until 1908, when he went to the University of Illinois as professor of railway civil engineering. In 1911 he was appointed division engineer of construction on the Illinois Central, in which capacity he had charge of a number of large scale construction and improvement projects. From 1913 to 1918, Mr. Roberts engaged in the private practice of general and railway civil engineering at Chicago, then being appointed staff officer of engineering and senior assistant engineer with the United States Railroad administration, Southern region. In 1920 he was appointed assistant director, bureau of finance, Interstate Commerce Commission, in which capacity he was in charge of forces handling engineering matters that came before that bureau. His appointment as chief of the section of securities of the commission came in 1935. He was active in the affairs of the American Railway Engineering Association and served as a director from 1931 to 1934.

* * * *



Types of Trailers Used in British Rail-Highway Co-ordination

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled From 140 Monthly Reports of Revenues and Expenses Representing 144 Class I Steam Railways

FOR THE MONTH OF MARCH, 1936 AND 1935

Item	United States		Eastern District		Southern District		Western District	
	1936	1935	1936	1935	1936	1935	1936	1935
Average number of miles operated	237,047	238,227	58,630	59,017	44,949	45,259	133,468	133,951
Revenues:								
Freight	$251,820,555	$229,170,886	$105,218,259	$101,429,762	$51,932,887	$48,274,573	$94,669,409	$79,466,551
Passenger	30,515,851	27,727,314	16,958,856	16,068,114	5,188,877	4,462,482	8,368,118	7,196,718
Mail	7,673,565	7,781,380	2,910,906	2,988,088	1,397,228	1,382,841	3,365,431	3,410,451
Express	5,016,777	4,465,211	2,001,529	1,752,296	1,243,736	1,217,295	1,771,512	1,495,620
All other transportation	6,694,166	6,093,633	3,508,282	3,262,801	701,568	661,961	2,484,316	2,168,871
Incidental	5,920,725	5,080,105	3,287,472	2,734,995	1,017,802	882,854	1,615,451	1,462,256
Joint facility—Cr.	887,742	776,523	278,699	269,873	172,194	164,024	436,849	342,626
Joint facility—Dr.	225,660	204,746	50,998	53,757	22,248	16,265	152,414	134,724
Railway operating revenues	308,303,721	280,890,306	134,113,005	128,452,172	61,632,044	57,029,765	112,558,672	95,408,369
Expenses:								
Maintenance of way and structures	34,183,434	27,798,280	13,968,884	10,703,590	6,483,058	6,108,429	13,731,492	10,986,261
Maintenance of equipment	64,159,933	56,915,874	28,963,237	26,223,679	11,875,820	10,930,658	23,320,876	19,761,537
Traffic	7,982,595	7,534,821	2,950,726	2,869,700	1,607,273	1,471,701	3,424,596	3,193,420
Transportation	114,668,681	103,544,164	52,809,138	48,293,088	19,448,006	18,089,650	42,411,537	37,161,426
Miscellaneous operations	2,725,854	2,434,450	1,230,347	1,122,503	452,527	386,274	1,042,980	925,673
General	13,101,221	14,676,265	5,766,530	5,834,195	2,232,200	2,427,913	5,102,491	6,414,157
Transportation for investment—Cr.	243,072	179,552	29,717	32,399	23,112	23,773	190,243	123,380
Railway operating expenses	236,573,646	212,724,302	105,659,145	95,014,356	42,075,772	39,390,852	88,843,729	78,319,094
Net revenue from railway operations	71,725,075	68,166,004	28,453,860	33,437,816	19,556,272	17,638,913	23,714,943	17,089,275
Railway tax accruals	25,847,032	20,078,314	10,562,782	7,944,417	5,251,548	4,468,948	10,032,702	7,664,949
Railway operating income	45,878,043	48,087,690	17,891,078	25,493,399	14,304,724	13,169,965	13,682,241	9,424,326
Equipment rents—Dr. balance	7,553,786	7,025,085	3,574,860	3,517,396	185,577	520,030	3,793,349	2,987,659
Joint facility rent—Dr. balance	3,118,743	2,932,734	1,760,112	1,670,050	312,871	345,917	1,045,760	916,767
Net railway operating income	a 35,205,514	b 38,129,871	12,556,106	20,305,953	13,806,276	12,304,018	8,843,132	5,519,900
Ratio of expenses to revenues (per cent)	76.74	75.73	78.78	73.97	68.27	69.07	78.93	82.09
Depreciation included in operating expenses	16,222,413	16,346,001	7,092,039	7,070,023	3,201,433	3,257,800	5,928,941	6,018,178
Total maintenance before depreciation	82,120,954	68,368,153	35,840,082	29,857,246	15,157,445	13,781,287	31,123,427	24,729,620
Net railway operating income before depreciation	51,427,927	54,475,872	19,648,145	27,375,976	17,007,709	15,561,818	14,772,073	11,538,078

FOR THREE MONTHS ENDED WITH MARCH, 1936 AND 1935

Item	United States		Eastern District		Southern District		Western District	
	1936	1935	1936	1935	1936	1935	1936	1935
Average number of miles operated	237,057	238,308	58,635	59,018	44,950	45,265	133,472	134,025
Revenues:								
Freight	$738,125,254	$647,112,569	$322,398,178	$291,314,747	$152,467,899	$133,124,597	$263,259,177	$222,673,225
Passenger	96,520,182	85,435,743	54,979,265	50,268,546	15,552,334	13,245,159	25,988,583	21,922,038
Mail	22,618,564	22,413,831	8,640,394	8,566,498	4,090,534	4,003,464	9,887,636	9,843,869
Express	11,649,062	10,509,380	4,431,577	3,933,969	2,875,439	2,958,519	4,342,046	3,616,892
All other transportation	19,772,714	17,578,943	10,341,193	9,514,063	2,045,321	1,826,934	7,386,200	6,237,946
Incidental	17,170,301	15,247,056	9,498,386	8,383,271	2,840,504	2,564,487	4,831,411	4,299,298
Joint facility—Cr.	2,691,849	2,337,319	839,597	773,979	534,599	471,689	1,317,653	1,091,651
Joint facility—Dr.	686,700	617,604	151,561	188,679	61,741	49,939	473,398	378,986
Railway operating revenues	907,861,226	800,017,237	410,977,029	372,566,394	180,344,889	158,144,910	316,539,308	269,305,933
Expenses:								
Maintenance of way and structures	97,021,156	81,059,062	39,874,343	32,574,017	19,220,132	17,941,962	37,926,681	30,543,083
Maintenance of equipment	188,343,445	165,233,027	86,361,277	75,217,651	34,527,313	31,675,487	67,454,855	58,339,889
Traffic	23,852,414	22,451,013	8,812,277	8,454,071	4,883,069	4,508,922	10,157,068	9,488,020
Transportation	348,113,740	305,581,979	161,797,967	143,910,220	58,633,649	52,170,482	127,682,124	109.501,277
Miscellaneous operations	8,458,033	7,312,233	3,989,893	3,522,737	1,286,472	1,095,013	3,181,668	2,694,483
General	39,093,674	43,611,069	17,182,557	17,419,313	6,675,088	7,182,741	15,236,029	19,009,015
Transportation for investment—Cr.	618,931	528,894	96,871	104,375	59,424	71,656	462,636	352,863
Railway operating expenses	704,263,531	624,719,489	317,921,443	280,993,634	125,166,299	114,502,951	261,175,789	229,222,904
Net revenue from railway operations	203,597,695	175,297,748	93,055,586	91,572,760	55,178,590	43,641,959	55,363,519	40,083,029
Railway tax accruals	58,647,464	59,714,983	27,793,633	23,817,153	14,868,069	12,945,876	25,985,762	22,951,954
Railway operating income	134,950,231	115,582,765	65,261,953	67,755,607	40,310,521	30,696,083	29,377,757	17.131,075
Equipment rents—Dr. balance	21,191,985	20,451,249	10,388,142	10,389,616	582,912	957,163	10,220,931	9,104,470
Joint facility rent—Dr. balance	9,193,268	8,764,993	5,176,658	5,049,113	948,134	876,493	3,068,476	2,839,387
Net railway operating income	c 104,564,978	e 86,366,523	49,697,153	52,316,878	38,779,475	28,862,427	16,088,350	5,187,218
Ratio of expenses to revenues (per cent)	77.57	78.09	77.36	75.42	69.40	72.40	82.51	85.12
Depreciation included in operating expenses	48,390,445	48,889,634	21,008,522	21,061,892	9,604,962	9,735,607	17,776,961	18,092,135
Total maintenance before depreciation	236,974,156	197,402,455	105,227,098	86,729,776	44,142,483	39,881,842	87,604,575	70,790,837
Net railway operating income before depreciation	152,955,423	135,256,157	70,705,675	73,378,770	48,384,437	38,598,034	33,865,311	23,279,353

a Includes charges to Railway Tax Accruals in the total amount of $5,464,691, itemized as follows: $1,452,072 for taxes under the requirements of the Social Security Act of 1935, and $4,012,619 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

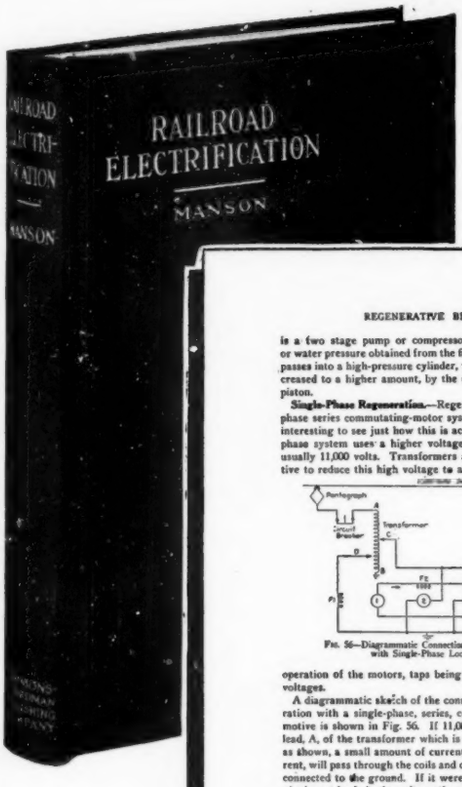
b Includes charges to General Expenses in the amount of $2,090,372 on account of accruals for liability under the Railroad Retirement Act of 1934.

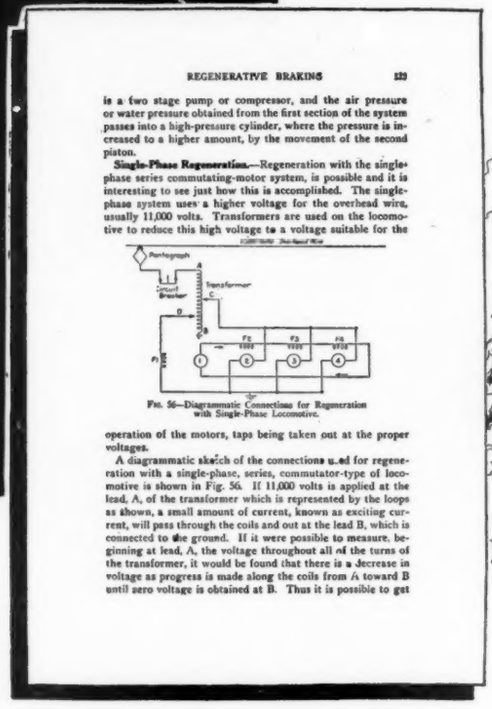
c Includes charges to Railway Tax Accruals in the total amount of $8,488,656, itemized as follows: $4,296,025 for taxes under the requirements of the Social Security Act of 1935, and $4,192,631 under the requirements of an Act approved August 29, 1935, levying an excise tax upon carriers and an income tax upon their employees, and for other purposes. (Public No. 400, 74th Congress.)

e Includes charges to General Expenses in the amount of $6,193,694 on account of accruals for liability under the Railroad Retirement Act of 1934.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to revision.

Railroad Electrification and the Electric Locomotive





REGENERATIVE BRAKING 123

is a two stage pump or compressor, and the air pressure or water pressure obtained from the first section of the system passes into a high-pressure cylinder, where the pressure is increased to a higher amount, by the movement of the second piston.

Single-Phase Regeneration.—Regeneration with the single-phase series commutating-motor system, is possible and it is interesting to see just how this is accomplished. The single-phase system uses a higher voltage for the overhead wire, usually 11,000 volts. Transformers are used on the locomotive to reduce this high voltage to a voltage suitable for the

FIG. 56—Diagrammatic Connections for Regeneration with Single-Phase Locomotive.

operation of the motors, taps being taken out at the proper voltages.

A diagrammatic sketch of the connections used for regeneration with a single-phase, series, commutator-type of locomotive is shown in Fig. 56. If 11,000 volts is applied at the lead, A, of the transformer which is represented by the loops as shown, a small amount of current, known as exciting current, will pass through the coils and out at the lead B, which is connected to the ground. If it were possible to measure, beginning at lead, A, the voltage throughout all of the turns of the transformer, it would be found that there is a decrease in voltage as progress is made along the coils from A toward B until zero voltage is obtained at B. Thus it is possible to get

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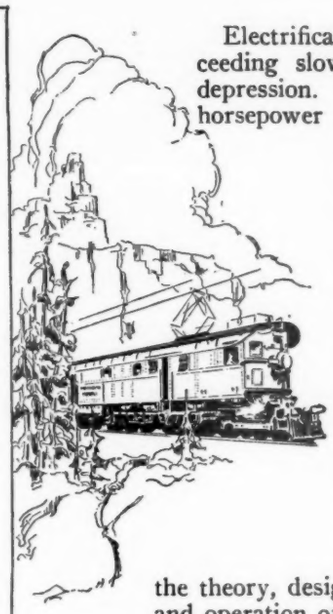

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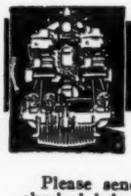

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